Croplife

A BUSINESSPAPER FOR THE FARM CHEMICAL INDUSTRY

MEMBER, BUSINESS PUBLICATIONS AUDIT

BPA

MARKETING EDITION

A Miller Publication
Business Journalists Since 1873

Vol. 7 JUNE 20, 1960 No. 23

International Group Sees Decrease In Fertilizer Exports

European Cooperation Organization Reports Foreign Production Up

WASHINGTON — A significant drop in exports of nitrogen in 1961 is foreseen in the recent report of the Organization for European Economic Cooperation. Tonnagewise, exports from the U.S. are expected to amount to some 100,000 tons, compared to 160,000 metric tons this year. This is a decrease of more than 37%.

On the other end of the stick, European fertilizer production is on the increase, more than keeping pace with plant food consumption. Eight nitrogen-producing countries are increasing their exports to about 2,029-000 tons. The present level is some 1,840,000 tons.

Eighteen countries are involved in the OEEC, and in these areas, consumption has risen 7%, according to the report. At the same time, however, production has risen even more

(Turn to DECREASE, page 8)

'Step Up Selling Efforts,' NPFI Speakers Urge Fertilizer Industry

WHITE SULPHUR SPRINGS, W. VA. — Strong recommendations that the fertilizer industry step up its selling efforts through better training of its own salesmen and also through the selection, training and encouraging of sales-minded dealers, were made by speakers at the fifth annual convention of the National Plant Food Institute at the Greenbrier Hotel here June 12-15. Making these suggestions were a fertilizer dealer, a sales consultant, and two Iowa State University sociologists who reported results of studies made recently on dealer characteristics.

Some 800 persons representing the fertilizer manufacturing industry and many of its sales and technical personnel, heard not only the portions of the program emphasizing selling and merchandising, but also a panel on chemical controls in manufacturing plants, a talk by a Future Farmer and an address on the political responsibilities of the business community.

Drs. George M. Beal and Joe M. Bohlen, professors of rural sociology, Iowa State University, Ames, told the convention that "in many areas the majority of farmers could be using three times their present amounts of fertilizers economically."

As joint speakers on the subject of "Dealer Characteristics Survey," they declared that the long-run future of the fertilizer industry depends on securing optimum use of fertilizer by the farmer. "There is general agreement that a tremendous potential exists for increased fertilizer use. Many farmers do not use any fertilizer. Others use it only occasionally. Probably the biggest potential is helping farmers increase their use of fertilizer to more nearly the optimum level. Obviously, the fertilizer industry has a stake in stepping up fertilizer use to more nearly the economic optimum. The industry not only has a stake, but an opportunity and responsibility," the speakers said.

"Obtaining optimum fertilizer use by farmers is a complex prob-

(Turn to NPFI, page 21)

★ ★ ★

Farm Problems Can't Be Solved By Inefficiency, Expert Says

WHITE SULPHUR SPRINGS, W. VA.—A promising future for agriculture; a plea not to reject efficiency on the farm as a means of solving surplus problems, and a reminder that people in the business community carry heavy responsibilities in the field of civic and political duties were pointed out by speakers at the NPFI meeting.

Appearing on the morning program of June 12, were Dr. Clifford M. Hardin, University of Nebraska, president of the American Association of Land Grant Colleges and State Universities; Jim Thomas, Patterson, Ga., president of the Future Farmers of America, and Arthur H. Motley, president of the Chamber of Commerce of the United States.

That less efficiency on the farm will never solve the problems facing agriculture, was pointed out by Dr. Hardin.

He noted that the "surplus problem" has caused some suggestions for choking off research programs, but said that he thought such an approach would be completely unwise.

"Programs of education and research simply do not lend themselves to fits and starts and interruptions," he said. "Furthermore, I do not believe our combined research and education program is the basic cause of our surplus problem. I believe that the problem arises essentially through the nature of the farm enterprise itself."

Dr. Hardin said that if research and education programs had been curtailed because of farm surpluses existing in the 1920's and 1930's this would have resulted in a lower average standard of living. Furthermore, he declared, such action would have made that much tougher the country's struggle for survival in the 1940's.

"I do not believe that America will ever solve any problem by deliberately promoting inefficiency," Dr. Hardin said. On the contrary, he said that he believed the nation now should redouble its efforts in agricultural education and research.

All who have the interest of agriculture at heart have a job to do in helping to "put the importance of agriculture back into a proper perspective," Dr. Hardin said.

Many people, he noted, discount the importance of agriculture, a situation caused by "ignorance of the complexity of agricultural production and in the mistaken notion that the relative importance of agriculture to our total economy can be measured by

(Turn to PROBLEMS, page 24)

CONVENTION COVERAGE

Covering the fifth annual convention of the National Plant Food Institute at the Greenbrier Hotel, White Sulphur Springs, W. Va., were the following Croplife staff members: Lawrence A. Long, editor, Donald G. Neth, Wilfred E. Lingren, Minneapolis, and Archy S. Booker, Jr., New York.

Potash Deliveries Drop During First Quarter

WASHINGTON—Deliveries of potash for agricultural purposes in the U.S., Canada, Cuba, Puerto Rico and Hawaii by the eight principal American producers totaled 860,759 tons of salts containing an equivalent of 499,-593 tons K_2O during the first three months of 1960, according to the American Potash Institute. This was a decrease of 4% in salts and K_2O under the same period in 1959. Continental U.S. took 474,666 tons K_2O; Canada, 18,106 tons; Cuba, 1,737 tons; Puerto Rico, 722 tons, and Hawaii, 4,362 tons K_2O. Exports to other countries were 121,241 tons K_2O, an increase of 104%.

Total deliveries for all purposes were 1,123,342 tons of salts containing an equivalent of 659,220 tons K_2O, an increase of over 6% in salts and K_2O over the first quarter of 1959.

BETTER SELLING FEATURES INSIDE.....

MERCHANDISING MARKETING SECTION

Customer Meetings . . .

Ontario Plant Foods, Ltd., Delhi, Ontario, has found the key to successful customer meetings. At two recent meetings, the combined attendance was 1,000. See how they did it . . . ***Story on page 9***

★ ★ ★

Kentucky Store . . .

A successful dealer operation in Winchester, Ky., is the Yeiser Farm Store. Facts and figures on why this store has succeeded are contained in this issue . . . ***Story on page 18***

Accepted as Controlled Circulation
Published Bi-Weekly by The Miller Publishing Co.
Minneapolis, Minn.

Subscription Rates:
$5 for 1 year; $8 for 2 years

Wisconsin Committee Says "No Basis For Serious Alarm Over Food Safety"

MADISON, WIS.—A committee of health and nutrition experts appointed by Wisconsin Gov. Gaylord Nelson to study hazards to health arising from the use of chemical food and feed additives reported its conclusion recently that "at the present time there is no scientific basis for serious alarm over the safety and quality of food available to the American people."

Chairman of the committee is Dr. Conrad A. Elvehjem, president of the University of Wisconsin. Other committee members are:

John Z. Bowers, M.D., dean, University of Wisconsin medical school, vice chairman; Robert C. Parkin, M.D., secretary, assistant to the dean, University of Wisconsin medical school; William P. Crowley, Jr., M.D., Madison, representing the Wisconsin State Medical Society; Dr. Aaron Ihde, chemistry department, University of Wisconsin; Dr. James A. Miller, McArdle Memorial Laboratory for Cancer Research, University of Wisconsin medical school; Carl N. Neupert, M.D., director, Wisconsin State Department of Health; Dr. Henry T. Scott, director, biological laboratory, Wisconsin Alumni Research Foundation; Dr. Robert J. Muckenhirn, assistant director, Wisconsin Agricultural Experiment Station, University of Wisconsin; Dr. Henry L. Ahlgren, associate director, Agricultural Extension Service, University of Wisconsin college of agriculture, and Donald N. McDowell, director, Wisconsin State Department of Agriculture.

In the preface of its report, the committee stated:

"On the basis of the study, the committee can assure the nation's food consumers that high standards of quality and safety are being observed in general by the nation's food producers. The members of the committee would like to emphasize their opinion that the dangers of inducing cancer or other toxic effects through consumption of any of the foods now generally available are certainly minimal.

"Nevertheless, painstaking research, conscientious inspections and testing, and vigilant enforcement of necessary regulations continue to be essential governmental responsibilities. The continuing security of the public health will depend very substantially upon how well these duties are performed by the public officers who are responsible."

The committee emphasized its belief that "recent federal legislation in this field provides an adequate legal framework for maintaining the safety and quality of our food," and stated that "the research scientists, enforcement officers, and administrators who are responsible for guarding the safety of our foods are public servants of unusual dedication and integrity."

Noting that "the greatest vigilance must be exercised to protect consumers from possible adverse effects of chemicals and other substances which do not occur naturally in foods," the committee states:

"In some instances, expansion of enforcement activities is required in order to secure full compliance with regulations. More adequate facilities for inspection and testing are needed, and they must be staffed with well-trained, competent specialists at salaries commensurate with their responsibilities to the public and with the rewards available in comparable private employment. Anticipated increases in the use of chemical material will require further increases in inspection, testing, educational and enforcement programs."

In the first of seven recommendations, the committee urged "continuing and expanding research in this field by federal agencies, industrial laboratories and universities . . . to insure protection of the public health without, so far as possible, raising unnecessary obstacles to improvement in methods of food production, processing and preservation."

It is generally recognized that pesticidal chemicals will continue to be used to an ever-increasing extent, the report continues. Without them, total agricultural production in this country would decline seriously.

The report points out that health hazards can be created under ordinary conditions only when pesticidal chemicals are improperly used. All chemical agents now approved for use have been thoroughly tested for toxic properties and approved methods for use are required on all commercial labels.

"In all reported instances where health hazards have been created, the ultimate cause was failure to comply with recommended methods for use of the pesticidal material," the report reveals.

Expansion and intensification of educational and regulatory programs should be undertaken to warn both food producers and the public that only through proper use can pesticidal substances be used safely.

"The committee is in full accord with every effort to insure the public a safe and wholesome food supply while at the same time recognizing that certain regulations now in effect appear to be unnecessarily rigid and to preclude a scientific judgment on the merits and hazards of substances useful as food additives," the report states.

"Specifically, the Delaney clause of the 1958 amendment to the Federal Food, Drug and Cosmetic Act (which provided that no carcinogenic substance be permitted in food in any quantity) fails to take into account that many chemicals may be hazardous in large quantities and under conditions of unusually long exposure, but harmless under conditions which would be encountered in ordinary circumstances," according to the report.

In the preface to its report, the committee urged "the exercise of what might be termed a rule of reasonableness in evaluating these problems."

"Frequently great apprehension is aroused through the publication of statements that certain substances are capable of producing cancer," the committee observed. "These statements often are misleading because they do not explain under what conditions the substances will produce the claimed effects.

"A solution of common table salt, in greater concentration than found in body fluids, is known to be capable of causing cancer in rats when injected subcutaneously. In addition, other natural substances are capable of producing cancer under conditions of unusual concentration and prolonged administration — conditions which would never occur under anything but laboratory circumstances."

The committee recommends "substitution of a less rigid regulation" than the Delaney clause, "providing that no substance with the ability to induce cancer following ingestion by man or animal could be employed in foods or appear in foods unless a safe level of use can be established through research and through evaluation by a properly qualified board of experts."

The report points out that Wisconsin is among 37 states possessing food laws which are identical in essential respects to the federal laws.

Most foods produced, transported and consumed in each state are involved in interstate commerce. The major task of enforcement, thus falls to agencies of the federal government, the U.S. Department of Health, Education and Welfare and the U.S. Department of Agriculture.

In Wisconsin, the State Department of Agriculture carries on an inspection program to maintain highest standards of quality for milk and somewhat more limited inspection and testing of other produce. As use of chemical additives and pesticides has expanded, the department's laboratory facilities have not kept pace, the report points out.

"The department now employs 37 inspectors for dairy plants and 18 inspectors for other food establishments. In addition, it maintains a small laboratory with a staff consisting of five chemists and a bacteriologist for the actual work of testing foods for adulteration. The department's laboratory quarters are cramped and are not staffed or equipped to run many of the intricate tests required." Hence, outside commercial laboratories have been engaged at times to test particular shipments of various food items sampled by food inspectors, the committee reports.

Expanded laboratory facilities will be available by 1963, but staffing the laboratories will be a problem unless "state salaries for scientific personnel are substantially increased," the committee reveals. Current salary ranges for scientific personnel make it difficult to obtain or keep an adequate laboratory staff.

The 10,000 word report is divided into seven sections—a summary; a list of recommendations; a statement of history and background; a review of the pesticidal health hazard problem; a section on food additives and the cancer problem; a review of current problems, and enforcement procedures in effect in Wisconsin.

STORE OPENS

CARMICHAEL, CAL.—Lagomarsino & Sons Garden & Farm Supplies store opened here recently. The outlet is owned by Clyde A. Lagomarsino.

Monsanto Announces New Fertilizer Prices

ST. LOUIS — Monsanto Chemical Co. announced the following fertilizer prices for the 1960-1961 fertilizer year:

Lion Brand anhydrous ammonia: Aug. 1 through Sept. 30, 1960, $84 a net ton of 2,000 lb. Oct. 1, 1960 to July 1, 1961, $92 a net ton. Terms net 30 days.

Lion Brand ammonium nitrate fertilizer: Aug. 1 through Sept. 30, 1960, $64 a net ton of 2,000 lb. packed in 80-lb. and 100-lb. paper bags. Oct. 1 through Dec. 31, 1960, $67 a net ton. Jan. 1, 1961 to July 1, 1961, $70 a net ton. For 50-lb. bags $1.50 additional per net ton is added to above schedules; for bulk shipments $6 a net ton is subtracted. Terms 1% 15 days; net 30 days.

Lion Brand nitrogen solutions (prices per net ton of 2,000 lb. contained nitrogen): manufacturing type, July 1 through Dec. 31, 1960, $126; Jan. 1, 1961, through June 30, 1961, $132. Direct application type (Tri-Una-Sol), July, 1960, $160; Aug. 1 through Sept. 30, 1960, $158; Oct. 1, 1960, to July 1, 1961, $164. Terms net 30 days.

All prices are f.o.b. Monsanto plants at El Dorado, Ark., and Luling, La., and subject to change without notice. At seller's option freight will be absorbed to meet cost of material shipped from recognized producing points. Tank car demurrage charges, including weekends and holidays, for each day cars are held beyond 15-day, no-charge trip lease period are $5 per day on both nitrogen solutions and anhydrous ammonia.

ENTOMOLOGY EXPERT DIES

WASHINGTON—Arthur B. Gahan, 79, a retired U.S. Department of Agriculture expert on entomology, died recently in Prince Georges County General Hospital. Mr. Gahan became an authority on chalcid flies, important to agriculture because they prey on harmful insects. He studied insects at many European museums and wrote about 120 scientific papers.

SOME OF THE participants at the recent Soils and Forest Management Field Seminar, arranged by the National Plant Food Institute and the University of California School of Forestry, examine seedlings in the new wire-protected sugar pine seed orchard of the U.S. Forest Service near Placerville, Cal. Selected vigorous sugar pine seedlings are protected from intense sun and deer and rodents in this intensively managed orchard for the production of high quality seed. Standing, left to right, are F. Todd Tremblay, Pacific Northwest regional director, NPFI; John Callaghan, Western Forest Protective Assn.; L. E. Gould, Shell Chemical Co.; Dr. Paul Zinke, University of California School of Forestry, and Art Scarlett, farm advisor, Plumas County. Directly behind Mr. Scarlett stand R. L. Luckhardt, Collier Carbon & Chemical Corp., and Lem Osborne, farm advisor, Yuba County. The school, which was held at Placerville to acquaint agronomists of the fertilizer industry and farm advisors from lumber producing counties with forestry practices and methods of reforestation, was arranged by Dr. Richard Bahme, western regional director, NPFI, and Ed. Gilden, U. of C. School of Forestry.

Carolinas Start Annual Witchweed Control Program

WASHINGTON — The 1960 eradication program against witchweed, a destructive plant parasite of corn and other crops, is under way in North and South Carolina, the U.S. Department of Agriculture reported. About 117,000 acres of infested land on 6,094 farms in the two states will be treated.

Chief weapons against the pest are weed-killing chemicals and cultural practices which have been developed through research on control methods. All land known to be infested will receive one of these types of treatment as part of the long-range witchweed eradication effort conducted since 1958 by plant pest control workers of USDA's Agricultural Research Service, research and regulatory agencies of the two infested states, and farmers.

More than 5,000 acres have been treated this year, on an experimental basis, with a new herbicide—2,3,6-trichlorophenylacetic acid—which in the research program last year gave effective, full-season control of witchweed in corn without injury to the crop. The experiments showed that the new herbicide, which is disked into the soil 10 to 14 days before crop planting time, not only prevented emergence of witchweed but also controlled other weeds throughout the growing season. Continued study of the chemical is necessary before it can be recommended for general use.

An estimated 98,000 acres will be treated with the herbicide 2,4-D as soon as the first witchweed appears above ground. This total is greater than last year's when some 72,000 acres were treated without injury to crops in treated or adjoining fields.

About 12,500 acres will be under cultural treatment this year. Farmers who agree to withdraw infested fields from production plant them to "catch crops"—corn, sorghum, and winter oats. These crops stimulate germination of the witchweed seed. When the weeds first appear above ground they are plowed under or — late in the season—are killed by frost.

Witchweed was first found in the Carolinas during 1956, the initial discovery of the pest in the western hemisphere. Its roots attach themselves to the roots of a host plant, suck food and water, retard growth, and cause the host plant to wilt and die, even in the presence of sufficient moisture.

Corn, sorghum and sugarcane—valued at $5 billion annually in the U.S. —are the primary host plants of witchweed. If allowed to spread, witchweed might threaten the midwestern Corn Belt and the sugarcane production areas of the South. In the Union of South Africa witchweed damage to corn is reported to be greater than the combined damage by all fungus diseases and insects.

Extreme precautions are necessary to guard against accidental spread of the microscopic witchweed seeds. Farm and road-building equipment or machinery is washed down, air-blasted, steam-cleaned, or fumigated before it is moved into uninfested areas. Conditions of movement of equipment and of such materials as plants, soil, tools and farm-product containers are prescribed by federal-state quarantines that have been in effect since the fall of 1957.

★ ★ ★

Changes in Witchweed Regulation Localities Noted

WASHINGTON — Changes have been made in the localities regulated under the federal witchweed quarantine in 12 North Carolina and six South Carolina counties, effective June 14, the U.S. Department of Agriculture announced in a late bulletin.

Localities have been placed under regulation for the first time in Brunswick, Johnston, and Lenoir counties, N.C., and Williamsburg County, S.C.

Additions to the existing regulated areas have been made in Bladen, Columbus, Cumberland, Duplin, Harnett, Hoke, Pender, Sampson, and Scotland counties, N.C., and Darlington, Florence, Horry, Marion, and Marlboro counties, in S.C.

Most of the extensions have resulted from a consolidation of clusters of individual farms infested with the witchweed into larger areas better adapted to quarantine administration.

Naugatuck Answers MH-30 Attack

NEW YORK — Recent comments throughout the tobacco belt that MH-30 is "so complicated a chemical that it can't be properly applied by the average tobacco grower," were attacked sharply by an agricultural chemical scientist.

"Applying MH-30 for tobacco sucker control is far from a difficult operation, and no more complex than any other chemical aid used by the tobacco grower," said Dr. H. Douglas Tate, manager of agricultural chemical research and development of the Naugatuck Chemical division, U.S. Rubber Co., developer of the chemical.

A U.S. Department of Agriculture statement contended that "the use of maleic hydrazide (MH-30) on tobacco to control sucker growth could seriously jeopardize the tobacco price support program and the domestic and export markets for U.S. tobacco."

Major tobacco companies were reported by USDA to be strongly protesting the use of the chemical.

Tobacco buyers emphatically stated that "they will not knowingly buy tobacco treated with the chemical," USDA said.

Dr. Tate said, "Three basic points must be kept in mind when using the chemical. First, the grower must wait until tobacco is in full bloom before topping and spraying the chemical. Second, he should spray at a rate of one pint per thousand plants. Third, he should harvest only when the tobacco is fully mature."

Each agricultural chemical has a specific job, Dr. Tate added, and misuse of a chemical most frequently occurs when farmers attempt to use it for more than the purpose intended by its manufacturer.

"MH-30 is an effective chemical for stopping the growth of suckers on a tobacco plant, and when used as recommended it does a very thorough job," he said. "Applying more than the suggested amount in an attempt to boost the plant's yield is a mistake because the chemical is incapable of this task."

The increased yields usually associated with use of the chemical, Dr. Tate explained, are the normal yields that result when tobacco plants are kept free of sucker growth. Sucker-free plants, however, do require more attention at harvest time, he added.

"Well-suckered plants mature more slowly than poorly suckered or unsuckered plants because they are producing more tobacco," he said. "Farmers should be aware of this, and should delay priming until the leaves are fully mature."

CHANGES OWNERSHIP

CORCORAN, CAL.—Lakeland Dusters, Inc., recently changed ownership here. The crop dusting firm was sold to Ralph Gilkey, Louis Robinson, E. J. Harp, George Truckell and Harriet Hanson. It had been in business as a pair of corporations, A. Lakeland and D. Lakeland, Inc.

NPFI Provides Six Forest Research Grants

ATLANTA—Six grants for forest fertilization research in the south have been provided by the National Plant Food Institute, Dr. Robert L. Beacher, director of NPFI's southern region, announced.

Principal scientists receiving financial support from the Institute and the studies involved are:

Dr. T. E. Maki, North Carolina State College—to continue studies on the effects of fertilization of forest trees in organic soils of the Southeastern coast.

Dr. Frank W. Woods, Duke University—to initiate experiments on the location of nutrient feeder roots of pines growing in deep sands.

Dr. Louis Metz, Southeastern Forest Experiment Station, U.S. Forest Service — to further investigate the possibility of using foliar analysis as a means of determining the nutritional status of southern pines.

George Sparrow, Tidewater Agricultural Experiment Station, USDA —to continue research on the interaction of fertilizer applications with irrigation and drainage.

Dr. John Hamilton, University of Georgia—to further determine the effects of fertilizer applications on the wood properties of Southern pines.

A fund has been set aside for commercial nutrient analyses of plant tissues.

Vermont Announces Fungicide Discovery

BURLINGTON, VT.—The University of Vermont here has announced the development of a compound showing much promise as a fungicide and germicide, on which the university has been granted its first pending patent by the U.S. Patent Office.

The compound was developed by Dr. Thomas Sproston, professor of botany, from a fungus, naphthoquinone, a group known for fungicidal qualities.

According to university officials, E. I. du Pont de Nemours & Co. scientists' tests have confirmed that the substance has above-average promise as a fungicide and potentially as a germicide. A small amount has very high fungicidal effect, yet with very low poisoning effects to animals and plants treated. It is called "Lamberellin."

Less Over-Tolerance Produce Shipments Now, Says Californian

SACRAMENTO — There are far fewer shipments of over-tolerance produce now than before the birth of new pesticides, Allen B. Lemmon, chief of the division of plant industry in the California Department of Agriculture, said in discussing the present pesticide tolerance problem.

"Lead and arsenic, the principal materials used before, do not dissipate chemically as many modern sprays do. And they often had to be put on just before harvest in order to control the pests," Mr. Lemmon said.

In discussing the problem, which has been characterized by some veteran observers as one of the most difficult situations in crop production that farmers have faced in half a century, Mr. Lemmon said:

"The official tolerances are at least 100 times smaller than the least amount of residue which shows any effect on test animals. If the residue is under tolerance, you couldn't possibly eat enough of it to feel any effect. The tremendous amount of food you would have to consume would make you sick first."

Accident Areas Noted In Plant Bulletin

KANSAS CITY, MO. — A bulletin issued recently by Spencer Chemical Co. of Kansas City indicates that although accidents may happen to all portions of the fertilizer plant employee's body, records over the years show how various hurts are distributed.

The trunk appears to be most susceptible to injury, according to the report. It accounts for 27% of injuries. In descending order, here are the other areas most likely to get hurt in the plant, according to the bulletin:

Fingers account for 18% of accidents; legs, 12%; arms 9%; head and feet 7%; general accidents 5% and toes 4%.

RECEIVES DEGREE

CLINTON, MISS.—Owen Cooper, executive vice president of the Mississippi Chemical Corp., Yazoo City, received the honorary doctor of laws and letters degree from Mississippi College recently.

INSECT, PLANT DISEASE NOTES

Boll Weevils March On Carolina Cotton

RALEIGH, N.C.—Boll weevils are on the march in the older fields in the Coastal Plains. Recently several fields of older cotton at the 8 to 10 leaf stage were showing on the average of one weevil to each 100 plants on an average basis. Last week the figure had doubled in some fields in Scotland County or two per 100 plants. No weevils were found in six fields in Montgomery County and a report from Hoke County indicated very few.

Aphids were again reported in many fields. The aphid causing the damage does not appear to be the regular cotton aphid. Beneficial insects, while abundant in some fields, are not reducing the populations to the degree in former years.

Cotton Insects Harm Fields in Arizona

PHOENIX — Recent weather has been ideal for growth of the cotton plant. At the same time, however, insects are very bad in some areas of the state. The plant is trying to fruit, but insects are knocking off many small forms, too many, in fact, in some cases.

In Maricopa County, the black fleahopper is causing serious damage in many fields. If controls are not applied soon, the bottom or early middle crop will not have a chance to set any bolls. Some plants are already showing a tendency to go vegetative instead of fruiting. Lygus counts are also very high in alfalfa, and a few are showing up in cotton. A few cotton bollworms are also showing up, but in most cases the predators are giving the needed control.

In Yuma County one large acreage showed many bolls on the bottom of the cotton plant. Two and three applications of an insecticide had been made earlier. Some beet armyworms are causing injury. A few cotton fleahoppers as well as bollworms were noticed, but very little control is needed at the present time. Lygus counts are running 2 to 3 per net sweep in seed alfalfa fields.

In Pinal County the black fleahopper still continues to cause injury, and many fields need controls. A few bollworms are also showing up.

In Pima County on the west side, the black fleahopper injury is present in some fields and controls are needed.

Kansas 'Hopper Infestations Spotty; Other Insects Thrive

MANHATTAN, KANSAS — Grasshoppers in field margins in the south central and southeastern areas were less than one per sweep. Infestations are spotty and are not general over the entire area. Stage of growth varies from 2nd instar to about ⅘ full grown. The hatch should be completed after the recent wet weather.

Several wheat fields were observed or reported to be infested with wheat stem maggots in south central, southeast and east central Kansas. These plants show the single white heads in contrast to the green field. Less than .1% of the plants were infested.

Wheat head armyworms were found in several wheat and barley fields in the south central and southeastern area. Counts were less than one per 1,000 heads. Reports of damaged grain can be expected from over the entire area, at harvest, although a large amount of damage is not predicted.

Cutworms are cutting off corn, 4 to 6 in. high, at or just below ground level, in a field in Republic County. Most of the cutworms are controlled with the corn rootworm treatment, but some species, as the black cutworm in 1959, feed at the ground level so must be treated as the damage occurs.

Wireworms are reported to be destroying seedling sorghum plants away from the seed, which had been treated. This field had an abundance of straw. The wireworms may be a problem for several years. Such a field of wireworms would require a soil treatment as for rootworms in corn.

Clover root curculio larvae are causing damage to regrowth after first cutting of alfalfa in Leavenworth County. A few adults were collected in Sumner and Sedgwick counties. Damage was not apparent.

Variegated cutworms are pupating in most alfalfa fields. A second generation is possible, but generally does not develop because of the natural insect controls.

Horn fly counts on a herd of cows in southeast Kansas ranged from 50 to 120 per head with an average of 80 per head. Counts on bulls in the same area average 200 per head.

Elm leaf aphid counts on American elm ranged from 50 to 100 per leaf in Johnson County. Dripping honeydew was spotting cars in Johnson County and Wyandotte County.

Wide Variety of Insects Strikes Colorado Fields

FORT COLLINS, COLO. — Heavy populations of alfalfa weevil have been reported in three Arkansas Valley counties. Numbers are also building up on Western Slope alfalfa fields, the Colorado Insect Detection Committee reported from its Colorado State University headquarters here.

The Arkansas Valley counties are Pueblo, Otero and Crowley, where counts have run from 3,000 to 5,000 larvae per 100 sweeps, with about 10% parasitized. Montrose and Garfield counties report numbers building up from the 25 to 30 larvae per 100 sweeps recorded several days ago.

The lygus bug count in alfalfa fields of Logan, Sedgwick and Washington counties has been running around 40 to 50 adults and nymphs per 100 sweeps, and 100 per 100 sweeps in Montrose County.

Potato psyllids are still being found on matrimony vine in Larimer County, with counts of 30 per 100 sweeps.

Grasshoppers are present on both rangeland and conservation reserve land, although marked differences in counts have been noted. Partially-grown hoppers have been averaging about 1 per 10 sq. yd. on Logan County rangeland. On conservation reserve land along the Prowers-Kiowa County line, the count has run 10 to 30 per sq. yd.

A few hoppers, up to one per sq. yd., have also been found along borders of Phillips County wheat fields. In Washington County alfalfa fields, the count has been a little heavier at three to five per sq. yd.

In both Phillips and Washington counties, diamondback moth larvae are moving from tansy mustard into wheat fields to pupate. However, the committee indicated that no damage was apparent or likely from this pest.

Wheathead armyworm moths caught recently in the Rocky Ford light trap in Otero County have averaged about four a day.

On the Western Slope, codling moth emergence was general in Delta, Mesa, Montrose and Garfield counties.

The leafroller reported recently as damaging trees in Denver has been identified as the fruit tree leafroller. A new problem reported last week from Pueblo County is an unidentified sawfly which is defoliating ash trees.

Delaware Reports Insect, Disease Damage

NEWARK, DEL.—On apples, there has been some increase in scab on leaves and fruit from overwintered ascospores; cedar rust lesions are now present on leaves; fire-blight symptoms are more conspicuous, and powdery mildew is under good control. On peaches, bacterial spot lesions are present on leaves but not on fruit, constriction continues active, and no brown rot found to date. Codling moth adults have continued to emerge from the Woodside cage every day since the last report. A few fresh entries noted June 7, the first damage observed since May 24. Mites very few in practically all orchards.

Thrips are attacking asparagus spears in some areas. Mexican bean beetle eggs now present. Small carrots in Kent County being attacked by thrips and springtails. Cucumbers are being attacked by the horned squash bug in some areas of Sussex County.

Bacterial spot was reported in New Jersey on plants from untreated seed. Hornworm eggs were found on this crop in Sussex County.

A late blight lesion found in one potato field in New Castle County. Green peach aphid and potato aphid continue to be found on certain plantings.

Colorado potato beetle is damaging tomato crop in some areas, and green peach aphid and potato aphid were present in most areas.

European corn borer, first and second instar larvae, attacked wheat in Greenwood area. Heads of infested stalks are white. Wireworm (species unknown) damage was noted in field corn near Dagsboro.

Armyworms Invade Missouri Pastures

COLUMBIA, MO.—During the past week, armyworms have become a problem in barley, wheat and rank pastures in the northern half of the state. The heavier infestations have been reported from the west-central counties along the Kansas line and in several northeast counties.

Some head clipping has occurred, particularly in the lodged areas within the fields. This will continue as the grain ripens and the worms become larger.

In those small grain fields where an average of 4 or more non-parasitized worms to the square foot are found, control is needed to prevent additional head clipping.

Where armyworms are causing damage to pastures that are or will be used by dairy cattle, there is no practical control that can be recommended because of possible residues coming through in the milk.

Variegated cutworm is reported damaging or preventing new growth of alfalfa in several counties in the northwest portion of the state.

Many fields of corn throughout the northern half of the state have soil insects — especially wireworms and dingy cutworms. Several of these fields fall into the problem class of not having a good enough stand to keep but still having too much of a stand to disk out.

Some of the early cotton insects are beginning to show up in scattered areas throughout the cotton counties. These insects include cotton aphids, spider mites and thrips.

Cotton aphids are present in heavy numbers in a few widely scattered fields. In the heavier infested fields, leaf curling is just starting. To date, lady beetles are not present in sufficient numbers to control these infestations but they are building up.

The lighter infestations of aphids will brobably be kept under control by their natural parasites, predators and diseases.

Spider mites are showing up along the margins of cotton fields in Dunklin, Pemiscot and New Madrid counties.

Where these spotted mite infestations are occurring, controls are needed to prevent the mites from spreading over the entire field.

Thrips are present in most fields. To date thrip injury is not evident on the cotton and as long as cotton continues to grow fast thrips probably will not be a problem. The period when thrips cause injury to cotton is usually over by the time the plants have 6 to 8 true leaves.

Black Cutworms Found In Several Iowa Counties

AMES, IOWA — Black cutworms are reported from Shelby, Polk, Clarke, Union, Adams, Crawford and Story counties. Cutworms are beginning to work in low spots in Clay, O'Brien and Sioux counties. In Harrison County a moderately infested field showed 6-8% of plants wilted from recent underground feeding and a stand reduction from 16,000 to 8,800 plants per acre. In this field, 25% of the cutworms had pupated, the rest were full grown. In other fields in the same area the worms were smaller but were also working underground. In central Iowa the cutworms were ½ to ¾ in. long and were feeding on the surface.

European corn borer is 84% emerged at Ankeny, the first egg mass was found June 6 and on June 8 there was an average of two egg masses per 100 plants on 20 in. corn planted April 23.

Armyworms defoliated corn in Clark, Union, Ringgold and Story counties. The worms are moving from rank grasses and winter grains into corn. They average ¼ to one worm per sq. ft.

Wireworms were reported from Clay and Dickinson counties in low spots in many corn fields. In damaged areas the wireworms averaged two per hill.

The common stalk borer was brought in from Mills County boring in small corn. The larvae were 1st and 2nd instar.

Corn billbugs attacked and damaged corn planted on sod ground in Crawford County. There was an average of one billbug per hill, 94% of plants showed damage and there was a 20-25% reduction in stand.

J. D. Stewart Named Chairman of NPFI Board of Directors

WHITE SULPHUR SPRINGS, W. VA.—The board of directors of the National Plant Food Institute on June 15 elected J. D. Stewart, Jr., of Louisville, Ky., as the chairman of the board, and John W. Hall, of Denver, as vice chairman of the board, at the conclusion of its 3-day convention at the Greenbrier Hotel here.

Mr. Stewart is president of Federal Chemical Co., and Mr. Hall is president of The Potash Company of America, Denver.

Other officers of the Institute, all of Washington, D.C., were re-elected as follows: Paul T. Truitt, president; W. R. Allstetter, vice president; Louis H. Wilson, secretary, and Wm. S. Ritnour, treasurer.

Members of the executive committee elected by the board are: J. C. Denton, president of Spencer Chemical Co., Kansas City, Mo.; Mr. Hall; J. J. Lanter, president of Central Farmers Fertilizer Co., Chicago; C. T. Prindeville, vice president of Swift & Co., Chicago; W. E. Shelburne, president of Armour Agricultural Chemical Co., Atlanta, Ga.; Mr. Stewart; Mr. Truitt; Jacob White, president of Nitrogen Division, Allied Chemical Corp., New York, and Fred J. Woods, president of the Gulf Fertilizer Co., Tampa, Fla.

Author Points Out Error in Cost Table

KNOXVILLE, TENN.—An error in a table appearing in the article "Costs of Producing Liquid and Solid Fertilizers" in the March 14, 1960 issue of Croplife, has been noted by Harold G. Walkup, agricultural economics branch, division of agricultural relations, Tennessee Valley Authority. Mr. Walkup was co-author of the article with N. L. Spencer.

"In Table 1, we erroneously used an f.o.b. price of $1.28 per unit of nitrogen in urea-ammonium nitrate solution instead of the correct price of $1.60 for some of the liquid grades," Mr. Walkup states.

"Using the correct value," he continued, "total costs of producing the liquid fertilizers as presented would be increased by about 1.5% for grades with $N:P_2O_5$ ratios of 1 to 2, about 3% for grades with $N:P_2O_5$ ratios of 1 to 1.33, and about 4.5% for grades with $N:P_2O_5$ ratios of 1 to 1. The cost of producing liquids with $N:P_2O_5$ ratios of 1 to 3 would not be altered since urea-ammonium nitrate solution is not required in these formulations."

NAMED TO STAFF

NEW HAVEN, CONN.—Doyle E. Peaslee, who received his Ph.D. degree from Iowa State University this year, has been appointed to the staff of the Connecticut Agricultural Experiment Station, announced James G. Horsfall, director. He will investigate methods of testing soils for plant food elements. Connecticut research over the past 30 years has yielded much information on the chemicals found in soil, and on quick tests to estimate amounts of these chemicals available to plants.

AERIAL MEETING

PORTLAND, ORE. — Oregon, Washington, Idaho and Montana aerial applicators and interested personnel are invited to attend the second annual four state aerial applicators conference at Yakima, Wash., Oct. 10-11. It will be sponsored by the Norkem Corp., Yakima, with Washington State Aeronautic Commission, Washington State Aviation Assn. and Washington State University cooperating. The 1959 gathering attracted more than 230 persons.

Canadian Pesticide Firms Report on 1959 Production and Sales

MONTREAL—Canadian companies which manufacture pest control chemicals have reported an overall net profit of 2.8¢ per sales dollar on their 1959 operations. About one quarter of the number of firms engaged in pesticides manufacture participated in a recent audited survey conducted under the auspices of Canadian Agricultural Chemicals Assn. This survey showed a total net income of $443,931 on total net sales of $15,526,008 in 1959. Although last year the net sales were higher by over $3,000,000 than in the previous year, the income after tax was lower at 2.8¢ compared to 3.3¢ in 1958.

The total net sales reported in 1959 represent over half the total dollar sales volume for agricultural dusts and sprays, livestock treatments, herbicides, household and industrial insecticides, rodenticides and sundry chemicals reported for the 12 months by the Dominion Bureau of Statistics.

In the same period these companies paid approximately 2¢ per sales dollar in federal and provincial taxes on their income. The largest portion, 96% of the sales dollar, went to pay the operating costs of business, including wages, salaries and benefits to employees, and purchase of raw materials.

Since 1947, when the annual sales of pest control products in Canada amounted to $7,000,000 the volume of sales has more than tripled, indicating the growing use of chemicals in the war against weeds and insects.

Today, due to the progressive use of chemical aids, the destruction by insects of what the farmers raise, is down to something like 12% on a much larger agricultural output, in comparison with twenty years ago when 25% of all crops were destroyed.

March Sulfur Report Issued by USDI

WASHINGTON—The domestic sulfur industry produced 436,530 long tons of native sulfur and 62,285 tons of recovered sulfur during March, 1960, reported the Bureau of Mines, U.S. Department of the Interior.

Producers' stock of native sulfur decreased compared to the previous month, and at the end of March, totaled 3,810,348 tons.

NAMED SALES MANAGER

NEWARK, N.J. — Bernard Seligman has been named sales manager, chemical catalyst department of the chemical division of Engelhart Industries, Inc. He will be responsible on a nationwide basis for catalyst sales and market development activities in the chemical, petrochemical and pharmaceutical fields.

INDUSTRY PERSONNEL NEWS

Lilly Adds Pathologist

INDIANAPOLIS, IND.—Dr. Irwin Frederick Brown, Jr., has joined the plant science department, agricultural research division of Eli Lilly and Co.

Dr. Brown

According to Dr. J. F. Downing, director of Lilly agricultural research, Dr. Brown will assist in designing and conducting experiments on the control of plant diseases at the Lilly research center for agricultural sciences near Greenfield, Ind.

Dr. Brown, a native of Pennsylvania, was graduated from Upper Darby High School in 1948. The University of Delaware awarded him a bachelor of science degree in entomology and plant pathology in 1954 and a master of science degree in plant pathology in 1958. The University of Maryland awarded him a doctor of philosophy degree in plant pathology in February, 1960.

●

Merck Appoints Two

RAHWAY, N.J.—Donald E. Tucker and Daniel J. Leyman have been appointed agricultural products sales representatives, Merck Chemical Division, Rahway, N.J., announced here. Mr. Tucker will cover southern Georgia, southern Alabama and Florida; Mr. Leyman, northern Indiana and western Michigan.

Mr. Tucker was graduated from the University of Georgia, Athens, with a B.S. degree in agriculture, majoring in dairy production. He is a native of Loganville, Ga. Prior to joining Merck, he was associate district manager for Lindsey-Robinson, Farmville, Va. He will report to Fred O. Church, region manager, Atlanta. His base city will be Albany, Ga.

Mr. Leyman, a native of Columbus, Ohio, holds a B.A. degree, with a biology major and a chemistry minor from the College of Wooster. Most recently, he was regional supervisor for Fromm Laboratories, Grafton, Wis. He will report to W. M. Bruso, region manager for the Merck north central region.

●

Hercules Appoints Three

WILMINGTON, DEL. — The appointments of a new director of development and a new manager of the Chicago sales district of the Hercules Powder Co. Naval Stores Department were announced by Fred Hogg, general manager of the department. The new appointments are:

Richard J. Both, director of development, succeeding Lyle W. Rothenberger, who has been transferred to the company's international department.

Elwin S. Pilchard, manager of the Naval Stores Department, Chicago sales district, succeeding Mr. Both.

Mr. Both, who has been manager of the Chicago sales district since early 1956, joined Hercules in 1940 after graduating from Harvard.

Mr. Pilchard, who attended Goldey Beacom School of Business in Wilmington and the University of Pennsylvania, joined the Hercules department in 1934.

It was also announced that Richard L. Johnson has been named a technical sales-service representative in the Chicago sales district.

A graduate of the University of Delaware with a B.S. degree in chemistry and an M.S. degree in organic chemistry, Mr. Johnson joined Hercules in 1952 as a chemist at the company's Research Center, near Wilmington.

●

New Associate Scientist

MIDLAND, MICH.—Promotion of Eugene E. Kenaga, a group leader on the agricultural chemicals research staff, to the rank of associate scientist is announced by Dr. R. H. Boundy, vice president and director of research, the Dow Chemical Co.

A veteran of two decades with Dow, Mr. Kenaga's work has been in the field of entomology since he started with Dow in the biochemical research laboratory in 1940.

Mr. Kenaga has been active in research in connection with fumigants, insecticides and insect repellents and attractants.

Chemagro Sales Assistant

KANSAS CITY, MO.—F. R. Johnson has been appointed assistant director of sales of Chemagro Corp., Kansas City, manufacturer of agricultural chemicals. He was formerly the company's technical sales representative for the western states.

F. R. Johnson

Mr. Johnson is a graduate of the University of Missouri, with a bachelor of science degree in agriculture and a master's degree in soil chemistry.

He is a member of the American Phytopathological Society and the American Society of Agronomy.

●

International Manager

MIDLAND, MICH. — Dr. Wendell R. Mullison has been assigned new responsibilities as product manager in charge of international sales of herbicides, soil fumigants and space and commodity fumigants, announced C. E. Otis, sales manager of agricultural products, Dow Chemical International Limited S.A.

In his newly-created position, Dr. Mullison will be responsible for marketing policies and programs, new product development and technical service in the line of products assigned to him. In addition, he will assist the field sales force in analyzing markets, training Dow agricultural products salesmen and distributors and in planning merchandising and product promotion.

Dr. Mullison, a Dow employee since 1946, has worked in agricultural chemicals for Dow International since 1953. Last year he was appointed manager of agricultural products technical service.

●

Appointed Manager

ARTESIA, CAL. — James T. McLean has been appointed sales manager of the Dairymen's Fertilizer Co-op, Inc., according to Albert Veldhuizen, president.

Mr. McLean has been employed by the California Farm Bureau Federation as field representative for their petroleum program and previously he was Sacramento district sales manager of the California Farm Supply Co.

Mr. Veldhuizen stated that Mr. McLean was selected for the position of sales manager because of his wide background and experience in agricultural business organizations. As sales manager he will be responsible for sales and overall operation of the organization acting under policies established by the board of directors.

●

Promoted by Cyanamid

NEW YORK—Edward H. Smythe has been appointed marketing director for the Agricultural Division of American Cyanamid Co., announced Clifford D. Siverd, general manager for the division. Mr. Smythe succeeds Burton F. Bowman who was recently named assistant general manager for the division.

Edward H. Smythe

Mr. Smythe has been assistant marketing director for the division and has had the additional responsibility of supervising the field sales force. In 1957, he joined American Cyanamid and served as merchandising manager which included the development of new products, marketing concepts, merchandising strategy and sales promotion.

Previous to joining American Cyanamid, Mr. Smythe's background has been in the area of food marketing and distribution. Five years were spent in merchandising food products for General Foods Corp. For 10 years he served as sales and advertising manager for Rockwood Co. of Brooklyn promoting branded goods.

●

Becomes Partner

CASTLE ROCK, MINN. — Arden M. Aanestad has become a partner in the Castle Chemical Co., Inc., at Castle Rock, Minn.

Ward Young started Castle Chemical Co. in 1931, formulating and distributing agricultural chemicals in Minnesota, Wisconsin, Iowa, South Dakota and the Red River Valley in North Dakota.

Mr. Aanestad was until recently with E. I. du Pont de Nemours & Co. for eight years as a sales representative for agricultural chemicals and for the past three years in development work in a 12-state midwest area.

●

Named Acting Manager

SAN FRANCISCO — Dwight M. Didzun, Seattle, was recently named acting regional manager of Harrison & Crossfield, chemical import and export firm. He will be responsible for sales in northern California.

Mr. Didzun has been with Harrison & Crossfield for about three years.

●

Executives Promoted

PEOTONE, ILL.—Stevens A. Bennett, former president, has been elected chairman of the board of Bennett Industries, Inc., Peotone. Anthony J. Gasbarra, who was formerly executive vice president, has been elected president.

Bennett Industries manufacture steel pails and drums, fibre drums, and are fabricators of structural steel and plate.

●

Chemagro Appointment

KANSAS CITY, MO. — James L. Carnes has been appointed technical field representative for the eastern region of Chemagro Corp., Kansas

(Turn to PERSONNEL, page 23)

Fertilize Both Generously, Says Expert . . .

'Feed Soil or Crop' Question Prompts Neutral Answer

By VINCENT SAUCHELLI
Chemical Technologist
National Plant Food Institute

"Feed the soil."

"Feed the crop, of course."

A good case can be made out for either recommendation. Fertilize generously, I say, so as to feed both the soil and the crop. This subject has been kicked about for many years. Perhaps it is not possible to give a straightforward, simple answer.

Those who advocate feeding the soil tell us that a sound program for profits is to build up a high level of fertility, especially of the minerals, phosphate and potash, ahead of planting. Such a built-in fertility will provide at all times a level of readily available plant food to ensure maximum yields. Nitrogen, in this program, is applied in supplementary doses for the sake of efficiency, since nitrogen losses in the form of nitrate may possibly occur. Also, in this program, are included applications of substantial amounts of limestone at regular intervals of time to supply nutrient calcium and to reduce soil acidity. If the feed-the-soil program is followed, the row placement of fertilizer becomes less important.

Those who recommend feeding the crop believe it is more profitable to place the fertilizer where it can be most readily utilized by the plant. They emphasize that, in many soils, phosphate and potash may be "fixed" by soil agencies and consequently put out of circulation. Small dosages placed along the row, they say, will return the most for each dollar invested in fertilizer. They seem to forget that the objective should be to achieve the most profit per acre.

The great majority of farmers are not using enough fertilizer, any way you judge their programs, so that perhaps the discussion is more or less only of academic interest. Maybe not.

You will perhaps agree that a brief review of some of the better established facts of fertilizer behavior and of how crops feed may give this discussion needed substance. Let us consider what fertilizer is, how it should be used and for what purpose.

First, we should have a definite understanding of the two concepts which are in conflict. Soil is a complex, dynamic biological equilibrium. The products of this dynamic interrelationship of earth, chemicals, organic materials and billions of microorganisms furnish the true food for plants. In other words, the soil is to be regarded as a living unit which through its alchemy generates the food that plants can utilize. Fertilizer then, according to this concept, is not a specific food for plants; it is raw material that is converted to plant food through the chemical and biological agencies of the soil.

Opposed, is the concept which considers soil merely as a physical support for plants and convenient trough for holding soluble materials used as food by the plant. The fertilizer, therefore, is there in solution to feed the plant directly as its specific needs may require. In other words, the fertilizer is plant food, ready to be used.

Soil scientists and plant physiologists in general point out that fertilizers in the soil become components of the colloidal complex comprising clay and humus and are acted upon by biological agencies. Plants get their nourishment as a product of this intricate, dynamic system. This intricate interrelationship defies simple description.

Two fundamental characteristics of the soil must be appreciated if this discussion is to mean anything. First, the soil is biologically alive. Take away the living, microbial fraction and it is merely dead, inert rock particles. Secondly, its colloidal properties determine the nature and release of food to the plant. Thus, soil fertility and its relation to crop feeding is governed by the state of its living, microbial population and by the electrical properties of its non-living, colloidal complex. These two mutually dependent characteristics of a soil will at all times definitely influence the behavior of applied chemical fertilizers. Soil fertility becomes the resultant of these several interactions. Soil fertility is something more than just the mixture of fine rock particles and chemicals in solution; it is the result of the vital nature of the soil. Conditions that favor the microscopic organisms in the soil will also ensure healthy plant growth. For the supply of nitrogen, phosphorus, sulfur and the other plant food elements depends entirely on the metabolism of this teeming microscopic life in the upper few inches of the soil.

That the total amount of living organisms in a soil is substantial can be appreciated by considering their gross weight: conservative estimates of the total weight of this invisible population vary from 1,000 to 5,000 lb. an acre plow slice of soil. It has to be fed and the supply must be maintained for high fertility purposes through large amounts of fertilizer.

The most important inorganic constituent of a soil pertinent to this discussion is clay. Every good, fertile soil must have a reasonable fraction of clay. Its importance to fertility is due to the negative electrical charge carried by the surfaces of its crystals. This attracts positively charged ions which are held until removed by organisms or other strongly charged cations. Calcium, magnesium, potassium, iron, zinc, copper, manganese and cobalt—all cations—are held on the clay and humus surfaces by electrical attraction or by what soil scientists refer to as "base exchange capacity" and the cations as "replaceable bases." The size of this base exchange capacity determines how much of each of the nutrient cations may be retained in the available state by the soil against losses through leaching and other means. The limit of soil fertility with respect to the cations is defined by the magnitude of its base exchange capacity.

These positively charged ions on the clay surfaces are also subject to the pull of electrical forces on the plant roots: they travel to whatever force is the greater. Apparently, the plant seems to win. Soil physicists have their explanations for this apparent victory, but we shall have to skip the details.

From this viewpoint of feeding the soil it is stated that it is not possible to feed the plant without first feeding the life of the soil. Nature seems to say that permanent fertility is accomplished by first satisfying the biological and colloidal requirements of the soil and then maintaining that state. This viewpoint also emphasizes the fact that the so-called "fixation" of phosphate should be considered a boon to mankind since its adsorption by the electrical forces of the soil's colloidal complex is a means of preserving it against loss while keeping it available as a plant nutrient.

Well, what is the conclusion of these observations? As Montaigne used to say: "Que sais je?" Who knows?

Whether to feed the soil or feed the crop, it may be wise to make the best of the findings of the soil test and apply fertilizer generously to satisfy both the soil organisms and the crop. In this manner the highest returns per acre may be realized.

MH-30 Manufacturing Facilities Consolidated

NEW YORK—All MH-30 used by tobacco growers during 1960 will be manufactured by the Naugatuck Chemical division, U.S. Rubber Co., at its plant in Gastonia, N.C., the company has announced. In past years the chemical suckering agent has been made by several companies from a base material supplied by Naugatuck Chemical, developer of MH-30.

The Gastonia plant is a modern compounding unit equipped with specialized mixing equipment for chemicals. It was built by Naugatuck Chemical in 1955 primarily to make latex compounds for the area's textile manufacturers.

"Precise mixing equipment will be used to assure uniformity in the total output of MH-30," said Otto Steinen, agricultural chemical commodity manager for Naugatuck Chemical.

Mr. Steinen added that Naugatuck Chemical has also intensified its educational campaign on proper usage of MH-30. Distributors of the chemical and Naugatuck Chemical field representatives have stepped up their schedule of grower meetings at which methods for applying the chemical are explained and demonstrated.

Allied Chemical Issues Revised Price List

NEW YORK — A revised schedule of prices for Allied Chemical ammonia and nitrogen solutions was announced by M. E. Hunter, vice president of Allied's Nitrogen Division.

Anhydrous ammonia, which has been priced at $88 a ton since Jan. 1, will be $84 a ton effective Aug. 1 to Sept. 30. Effective Oct. 1, until further notice, it will be $92 a ton.

Nitrogen solutions for use in manufacturing mixed fertilizers, including Nitrana, Urana and UAS, have been priced at $128 a ton since Jan. 1. Effective July 1 to Dec. 31, they will be $126 a ton. Effective Jan. 1, 1961, until further notice, they will be $132 a ton.

Uran, a nitrogen solution for direct application to the soil, has been priced at $160 a ton since Jan. 1. Effective Aug. 1 until Sept. 30, Uran will be $158 a ton. Effective Oct. 1, until further notice, Uran will be $164 a ton.

Terms of sale of above materials are net cash 30 days. Tank cars will be furnished by seller without cost up to 15 days free unloading time, after which there will be a charge of $5 per day.

Cost to buyer of above solutions and ammonia will be equalized against lowest delivered cost of similar products from competitive producing points.

FIRST-QUARTER REPORT

NEW YORK—Witco Chemical Co., Inc. reports a net income of $585,400, or 76¢ per share, for the first three months of 1960—an increase of 28% over $457,800, or 60¢ per share, for the comparable period the previous year. Sales and other income for the first quarter of 1960 were $15,249,800 as compared with $12,893,100 for the same period in 1959—an increase of 18%.

TONNAGE REPORTS

Maine

ORONO, ME.—Fertilizer sales in Maine during the fiscal year July 1, 1958, to June 30, 1959, amounted to 169,720 tons, reported the State Department of Agriculture. This total included 160,667 tons of mixed fertilizer and 9,053 tons of materials.

●

South Carolina

CLEMSON, S.C. — Sales of fertilizer in South Carolina during May amounted to 96,255 tons, compared with 102,425 for the same month a year ago, reported B. D. Cloaninger, director, fertilizer inspection and analysis.

●

Maryland

COLLEGE PARK, MD. — Maryland sold 111,090 tons of fertilizer during 1959, reported L. E. Bopst, state chemist, State Inspection Service. This compares with 99,496 tons sold in 1958. Most popular grade was 5-10-10.

●

Florida

TALLAHASSEE, FLA. — Mixed fertilizer sales in Florida during April amounted to 139,655 tons and fertilizer material sales 63,066 tons, reported Lee Thompson, commissioner, Florida Department of Agriculture.

●

Arkansas

LITTLE ROCK, ARK.—Fertilizer sales in Arkansas during April were 126,183 tons, reported the State Plant Board. Of this, 74,759 tons were mixed grades and 51,423 tons were materials.

●

Kentucky

LEXINGTON, KY. — Commercial fertilizer sold in Kentucky in 1959 was more than 602,000 tons, or 68,000 tons more than 1958, reported the University of Kentucky Agricultural Experiment Station.

●

Alabama

MONTGOMERY, ALA. — Alabama fertilizer sales in April amounted to 350,718 tons, reported R. C. Bamberg, commissioner, Alabama State Department of Agriculture and Industries. This total is 36,991 tons more than April of 1959.

●

California

SACRAMENTO, CAL.—California sold 350,259 tons of commercial fertilizer during the first quarter of 1960, compared with 317,589 tons sold in the similar period last year, reported William E. Warne, director, State Department of Agriculture.

●

Illinois

URBANA, ILL. — Illinois farmers set a new fertilizer-buying record in 1959, the University of Illinois department of agronomy reported. Sales jumped 17% over those of 1958. Mixed fertilizer sales totaled 663,138 tons compared with a previous high of 544,592 tons in 1958. Nitrogen material sales climbed to 216,272 tons compared with 177,254 tons in 1958. Phosphate materials

Shell, Stauffer, Western States Start New Plant

DOMINGUEZ, CAL.—A new fertilizer plant, run jointly by Shell Chemical Co., Stauffer Chemical Co. and Western States Chemical Corp., is slated for construction here.

The plant will produce a full line of complex solid fertilizers for the western market, which will be sold separately by the various participating companies.

Plans for the new company to run the plant have been in the works but were only approved in the last week of May by all three companies. The plant will be built next to Stauffer's present plant in Dominguez, and across the street from Shell's chemical plant and refinery here, near Long Beach in southern California.

All three companies have marketed in southern California for a number of years and, although both Shell and Stauffer have facilities in the area, the construction will mark the first time Western States has manufactured there.
& Stauffer have facilities in the area, the construction will mark the first time Western States has manufactured there.

The plant is expected to be in operation early next year, producing over 50,000 tons of fertilizer for the western market. The output will include a wide range of nitrogen, phosphate and potash fertilizers for California and other western states.

'Cost of Credit Will Stay High'

WICHITA, KANSAS — "Despite some recent hopeful signs of an easing of the 'tight money market,' the cost of borrowed money is expected to remain relatively high for some time," said Glenn E. Heitz, director of the Cooperative Bank Service, Farm Credit Administration.

Mr. Heitz, while speaking to a farmer cooperative audience, said the chief factor in this situation is the tremendous world-wide demand for credit. Some factors involved here include defense needs, population growth, consumer credit needs, economic growth and government spending.

"Farmers and their cooperatives are requiring increasing amounts of capital," said Mr. Heitz, "but the Farm Credit System will have sufficient funds to serve all deserving farmers and their cooperatives at the lowest cost consistent with sound lending.

"Farmers should get on a sound basis and stay there," he added, "for credit cannot substitute for income over the long pull."

NAMED TO POST

WASHINGTON—Dr. E. M. Adams of Dow Chemical Co., Midland, Mich., has been elected chairman of the Manufacturing Chemists' Assn.'s air pollution abatement committee. He succeeds A. B. Pettit of W. R. Grace & Company, New York City.

Texas Gulf Sulphur Reports New Well

MOAB, UTAH — Texas Gulf Sulphur Co. announced favorable results from its first test well on potash leases in southeastern Utah. The well was completed one month following the signing of an agreement under which Texas Gulf will acquire and commercially develop the extensive Utah potash properties of Delhi-Taylor Oil Corp. The latter will retain a 25% interest.

"The test results were consistent with earlier estimates of the thickness and grade of the potash strata," according to Claude O. Stephens, president of Texas Gulf. A second well is now near the coring stage and a third rig is being moved on location to accelerate Texas Gulf's test program. The drilling is taking place in the Cane Creek Anticline area.

Texas Gulf used compressed air rather than mud as the drilling and coring medium. This is believed to be the first successful use of air in the coring of salt and potash. This technique speeded drilling, eliminated leaching and led to 100% core recovery in the potash zone, the company says.

DECREASE

(Continued from page 1)

to make possible an exportable tonnage of 532,000 tons.

The marketing situation in these countries is complicated by various degrees of government control. Of the eighteen, only four (Ireland, Sweden, Switzerland and the U.K.) operate without government intervention. In the other nations, prices are either controlled outright, or government approval of price changes must be given before the industries can raise or lower their quotations.

Ten of the countries have introduced fertilizer subsidies which have been on the increase each year since. Value of such subsidies in 1958 was $209 million, the report said. In 1956, it was $175 million.

Mixed fertilizers, or what the report terms "complex" fertilizers, have seen consumption increases amounting to 25% in 1958-59, but "other nitrogenous fertilizers" rose 44% in the same period.

Prices of nitrogen were stable in about 2%. Concentrated superphos- France, Iceland and Spain saw marked increases in price. Decreases were noted in Belgium, Ireland, Italy, Luxembourg, Turkey, and the U.K.

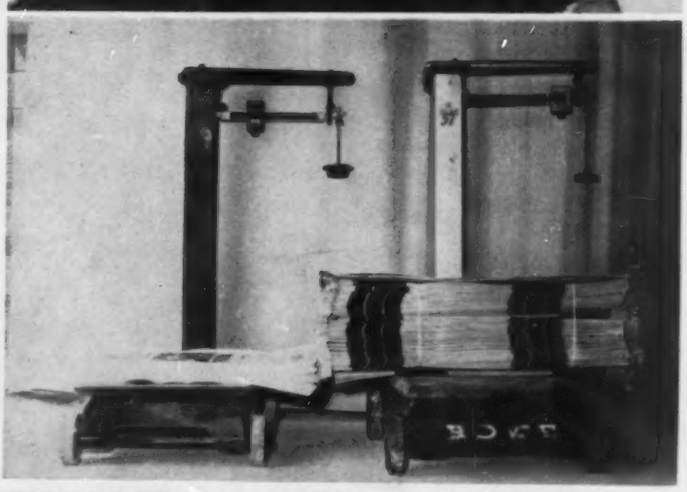
Phosphate fertilizer consumption is expected to rise about 6%, the report indicated, but production of this type of plant food will not be quite that much.

The OEEC report said that the consumption pattern for phosphates in recent years has tended toward superphosphates, complex and other types of phosphates, while consumption of basic slag has declined by about 2%. Concentrated superphosphate consumption has risen 20%.

Prices for phosphates have varied considerably, remaining stable in only a few countries. The largest increases have been in France and Spain and the greatest decreases in Ireland and Turkey.

In 1958-59, the price for single superphosphate in Turkey dropped 47% to $263.06 a ton of contained plant nutrient and Turkish consumption rose 108%. Subsidies on phosphate fertilizers are granted in Germany, Greece, Ireland, Norway, Portugal and the UK.

Production and consumption of potash fertilizers rose about 3% in 1958-59, but the OEEC study group predicted a faster rate of increase for both.



NEW POLYETHYLENE PRODUCT—W. R. Grace & Co. has announced a new high density polyethylene, "Grex", which it says has proved successful in making 80 lb. bags for packaging triple superphosphate at the Bartow, Fla., plant of its Davison Chemical Division. The bags, Grace says, permit out-of-doors storage and protect the contents from rain and snow. In above photo, triple superphosphate is stored in the open, and below is demonstration of light weight of polyethylene products. On each scale are 100 bags. On the left, the new type weighs less than 30 lbs., while the ordinary multiwalls weigh a pound each. Grace manufactures the polyethylene at its Polymer Chemicals Division, Clifton, N.H. It does not manufacture the finished item.

"MISS GRO-GOLD," 10-year-old Delhi, Ont., youngster, pulls out one of the winners' names during drawing at the Ontario Plant Foods, Ltd., customer meeting. Winners received bags of Gro-Gold fertilizer. George Urbanis holds box and George Roe, manager, waits to get lucky name.

1,000 Attend . . .

Customers Abound at Canadian Firm's Successful Meetings

When a fertilizer company holds a farmer customer meeting and draws 50 persons . . . that's about average.

When a company holds two meetings and draws 1,000 customers and a "very satisfactory amount" of new business, that's a success story to be proud of — and the Ontario Plant Foods Ltd. of Delhi, Ontario, is justly proud.

More than 650 persons came to the first meeting and about 350 to the second one, and George Roe, Ontario Plant Foods general manager, attributes the success of both meetings to a set of three basics: complete and correct planning, proper promotion and an outstanding speaking program.

These basic principles worked for Ontario Plant Foods in two fundamentally opposite situations. Each of the two meetings had different problems, a different goal and different methods of reaching the goal.

Meeting No. 1 was arranged to officially open a new bulk fertilizer warehouse in Wallaceburg, about 100 miles from the Delhi headquarters. To make it a community-wide occasion, the meeting was combined with a social affair, and personal invitations were used to solicit attendance.

GEORGE ROE, general manager of Ontario Plant Foods, Delhi, Ont., addresses tobacco growers at a customer meeting. Floral arrangements in hall and boutonnieres worn by speakers added to the decorum. The meeting was the second successful one in two months for the firm.

Meeting No. 2 was limited to tobacco farmers in the rich Delhi tobacco area. Unlike the earlier one, this meeting was all business—educational talks and panel discussion. Here the method of pulling in crowds was through newspaper ads, radio spot announcements and poster publicity.

Mr. Roe said the results were new orders and excellent comments, and that "in both cases we feel that the meetings met the objectives we had in mind."

For both meetings, planning was based on principles in the folder "Action Kit for Farmer Meetings" distributed by International Minerals & Chemical Corp. as part of its "Full Orbit" customer service program. Frank Gildner of IMC aided in preparation of both events.

Acquaint Farmers

At Wallaceburg, a town of 5,000, Ontario Plant Foods has set up a subsidiary, Bulk Fertilizer, Ltd., to

(Turn to MEETING, page 20)

TOBACCO FARMERS line up to collect prizes in drawing for bags of Gro-Gold fertilizer. George Roe, general manager of Ontario Plant Foods, Delhi, Ont. (at microphone), reads off winners' names.

WHAT'S NEW

IN PRODUCTS · SERVICES · LITERATURE

No. 6067—Dairy Stock Spray Bulletin

McLaughlin, Gormley, King Co. announces the availability of a comprehensive dairy stock spray bulletin. The bulletin contains sections on "Production Losses from Biting Flies," "Insect Pests of Dairy Cattle," "MGK Products for Dairy Cattle Insect Control" and "Test Data." Illustrations of the various dairy cattle insects are utilized on the inside of the front and back covers. For more information, check No. 6067 on the coupon and mail.

No. 6071—Seed Disinfectant Bulletin

A technical bulletin describing Methyl Mercury Pentachloro Phenolate compound "473," a new seed disinfectant, is available from Samincorp. Technical data and experimental results are recorded as well as tables on performance. For copies of the bulletin, check No. 6071 on the coupon and mail.

No. 6068—Weed Killer Display Card

Amchem Products, Inc., originator of amino triazole and the manufacturer of Weedazol brand Amino Triazole has recently taken steps to reassure farmers of compliance of this product and all other Amchem weed killers with U.S. Department of Agriculture and Food & Drug Law requirements. A display card carrying a message signed by G. C. Romig, Amchem president, has been distributed to wholesalers and retailers certifying that all Amchem weed control chemicals conform fully with all federal requirements. The display card reads, "Notice to the consumers of Weedone-Weedar-Weedazol, Amchem Products, Inc., certifies that all its agricultural products comply with applicable federal laws, including the Food & Drug Law, when used in accordance with the directions appearing on the labels." For more information, check No. 6068 on the coupon and mail.

No. 6069—Mist Sprayer

There are now five air-type mist sprayers in the 1960 line of "Rotomists," especially designed for shade tree spraying and mosquito control by John Bean Division of Food Machinery & Chemical Corp. The models range in size and capacity to fit spraying needs of various users. The model 300 is designed principally for shade tree spraying. It features a

Royalette 10 pump with pressure adjustable up to 400 psi at 10 gpm. The blower consists of an axial-flow six blade propeller, 40 in. in diameter with straightening vanes. Tank capacity is 300 gal. Other models vary in pump style, fan size and gallon capacity. For more information, check No. 6069 on the coupon and mail.

No. 6070—Portable Recirculator

A portable, collapsible "Fumilator" recirculation unit that can be attached to the outlet of the aeration fan and to a roof ventilator on a grain bin is described in a six-page folder being made available by Ferguson Fumigants. With unit attached as described above, the fumigant can be drawn out of the bin by the fan and can be circulated back through several times. By recirculating the fumigant several times, the company says, the fumigant can be equally distributed into all parts of the grain in the bin. The recirculator can be quickly removed for use on other bins, the company says. For more information, check No. 6070 on the coupon and mail.

No. 6072—Molded Plastic Barrel

A materials handling container molded from polyethylene plastic is being produced by the National Industrial Products Co. The barrel is 30" tall, 22" in diameter and has a capacity of 50 gal. It weighs 6 lb. A

steel hoop molded in the rim adds rigidity to the container and the manufacturer claims that it is able to withstand severe abuse from constant re-use. An airtight cover is available. For further information check No. 6072 on the coupon and mail.

Thuricide Registered For 12 Crops, Tobacco

NEW YORK—"Thuricide," a microbial insecticide tested by Bioferm Corp., Wasco, Cal. and Stauffer Chemical Co., New York, has been granted Federal registration and exemption from a tolerance requirement.

The U.S. Food and Drug Administration announced that Thuricide may be used on 12 food crops and on tobacco. Label registration will be sought for two formulations—Stauffer Thuricide Wettable Powder and Stauffer Thuricide Dust. Among the insects for which the insecticide is recommended as a control are imported cabbageworm on broccoli, cabbage and cauliflower; cabbage looper on these three vegetables plus celery, lettuce and potatoes, and tobacco hornworm.

California Pastures Lack Phosphorus, Nitrogen, Says Range Specialist

SACRAMENTO — The elements most commonly deficient in California irrigated pasture soils are phosphorus and nitrogen, with sulphur and potassium occasionally deficient in limited areas, according to Victor P. Osterli, University of California extension range and pasture specialist.

Most of the irrigated pasture in California grows on soils with a hardpan or a claypan subsoil, he said, and they are deficient in phosphorus.

A three year study on a San Joaquin loam soil in Sacramento County showed phosphorus alone produced increased feed at a cost of about $6 per ton. Although phosphorus and nitrogen applied together produced the greatest total increase in forage yield, the cost was almost $20 per ton, Mr. Osterli said.

An application of 100 lb. an acre of phosphoric acid remained effective about two growing seasons whereas an application of nitrogen lasted only 30 to 40 days.

Mr. Osterli said the phosphorus may be supplied by either single or treble super phosphate broadcast preferably during the dormant season before growth starts in the spring. In areas where sulphur deficiencies are also suspected or known to occur, single superphosphate containing about 9% sulphur should be used, Mr. Osterli said.

The University expert said nitrogen may be used to increase the growth of grass in the forage mixture. When applied during late winter, it usually will provide earlier grass growth and frequently more abundant feed. Mr. Osterli recommended 40 to 60 lb. of nitrogen an acre, an application which may be expected to be effective for a maximum of 30 days under average irrigating procedures.

ILLINOIS PUBLICATION

URBANA, ILL.—"Vegetable Insecticide Recommendations" is the title of a new publication just released by the University of Illinois and Illinois Natural History Survey.

Send me information on the items marked:

- ☐ No. 6067—Dairy Stock Spray Bulletin
- ☐ No. 6068—Weed Killer Display Card
- ☐ No. 6069—Mist Sprayer
- ☐ No. 6070—Portable Recirculator
- ☐ No. 6071—Seed Disinfectant Bulletin
- ☐ No. 6072—Molded Plastic Barrel

(PLEASE PRINT OR TYPE) COUPON NOT VALID AFTER 60 DAYS

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

Combination Fertilizer-Pesticide Successful In Cotton Experiment on Arkansas Farm

AUGUSTA, ARK. — A new treatment method that combines the fertilizing and bug-poisoning of cotton in a single operation was tested successfully on a farm near here this year.

Clyde Felts, manager of the Felts-Jennings & Co., Inc., farm near Augusta, said he successfully mixed urea with liquid bug killers and fertilized and poisoned his cotton in one application.

Mr. Felts said he used a formula containing 220 lb. of urea, 11 qt. of poison composed of two parts DDT and one part methyl parathion and mixed it with 100 gal. of water. He applied the mixture to 11 acres of cotton.

"Some people predicted I would defoliate and burn up my cotton," he said, "but I believe the experiment worked out very successfully."

The formula for the solution was worked out by Dr. U. S. Jones of Little Rock, the chief agronomist for Olin Mathieson Chemical Corp.

After originating the formula and single application idea, Dr. Jones said he persuaded Mr. Felts to try it.

Benefits derived from the new methods are twofold. Not only does it reduce labor and operating costs, but it apparently has proven that the idea of a single application for two different end results is sound.

Mr. Felts says he believes he received better results when the fertilization and poisoning were used together than when he applied each separately.

The combination mixture was applied on Aug. 5 at the rate of 9 gal. an acre.

This meant that each acre in the experimental plot received approximately 20 lb. of urea and 1 qt. of the DDT-methyl parathion concentrate. The mixture was applied with a spray rig mounted on a highboy with a 50-in. clearance.

"I feel we got a better kill from the poison applied simultaneously with the urea," Mr. Felts reports. "We found very few weevils behind the spray rig."

Actually, Mr. Felts poisoned all his cotton 15 times this year. And he used 250 lb. of 12-12-12 fertilizer per acre at planting and later sidedressed with 200 lb. of nitrate of soda.

Dr. Jones said the only difference made in the experimental plot was the application of urea with the spray on Aug. 5.

Mr. Felts says the urea may have increased the yield on the test plot. He picked two bales from the six rows in the experimental area, while it required eight rows to get two bales on adjoining rows.

Although he feels the urea helped increase the yield, he said the test rows were 31 chains long compared to only 25 chains for the untreated rows.

Mr. Felts says he plans to carry out the same experiment again next year, but he will keep more detailed records. Dr. Jones said he will attempt to interest more farmers and experiment stations in the idea.

Dr. Jones said he thinks this leaf-feeding of cotton with urea is a good method to eliminate late-season nitrogen deficiencies.

And Mr. Felts added: "In a field short of nitrogen, I think a farmer could benefit by giving cotton a shot of urea in July and twice in August. You can feed it as you need it."

Dr. Jones claims that agronomists in the cotton belt cannot "accurately predict" at the beginning of a season exactly how much nitrogen will be needed in any given field. At least, not until they can predict the weather.

"Perhaps the best way to apply the correct amount," he contends, "would be to add 40 to 60 lb. of nitrogen preplant and then leaf-feed with an additional 5 to 10 lb. of urea as many times during the growing season as needed."

Dr. Jones says he believes this is the first time urea has been mixed with DDT and methyl parathion and applied at one time in field tests on cotton. He said urea was compatible with the two poisons because it is a non-polar compound while most other nitrogen compounds are polar type.

Fertilizer Courses Planned For Georgia College

TIFTON, GA. — Both fertilizer industrymen of Georgia and farmers will have an interest in fertilizer courses which were planned for Abraham Baldwin Agricultural College in Tifton for the fiscal year 1960-1961 at a mid-May short course planning session.

R. L. Carter, soil scientist at Georgia Coastal Plain Experiment Station in Tifton, served as chairman of the agronomy committee, which was one of several committees planning between 30 and 40 courses for the fiscal year, which will begin July 1, 1960. Most of the courses will be of one day duration.

The agronomy committee listed two courses specifically centered on fertilizers. Other courses they planned included those centered on various crops, and each of these will include speakers on fertilizers as related to those particular crops.

One of the courses will be on "Fertilizer and Soils," and this program will be designed to include both industrymen and farmers. It will include information on new fertilizer laws to go into effect in Georgia in July. It will also include some new recommendations for various crops.

TO SPONSOR PASTURE PROGRAM

ATHENS, GA.—The Georgia Plant Food Educational Society, Inc., will sponsor in conjunction with the Georgia Agricultural Extension Service a Big M pasture program in 32 counties.

The program will be designed to increase farm income from pastures by increasing yield per acre and reducing cost per unit of production. The minimum pasture production goals which farmers in participating counties will be challenged to meet are 200 lb. of beef and 2,000 lb. of milk per acre.

The Big M pasture program will emphasize four major steps: lime, fertilizers, grass and management. Its slogan is "More Grass, More Beef, More Milk, More Money."

Addition of Fertilizer Line Proves Profitable for Dealer

By J. I. SWEDBERG
Croplife Special Writer

Howard Ogle, owner of Howard's Produce at Benson, Minn., after a number of years of experience in the management of dairy and poultry plants, decided to go into business on his own in 1954. His first step was the egg business, but a number of other lines were added later. The latest venture was getting his feet wet in the fertilizer business in the fall of 1959.

"Adding the fertilizer line will mean an extra $2,000 annual profit," he explains, "and that is nothing to sneeze at." Mr. Ogle confidently expects to do a $50,000 fertilizer business in 1960, with half of this goal having been reached by the middle of May.

When he started his business in 1954 he was "in the hole" $3,000. In the first year the gross was $100,000 which had climbed to $500,000 by the end of 1959. This, of course, included feed, eggs, cream, seed and fertilizer.

HOWARD OGLE is the owner of Howard's Produce in Benson, Minn. The firm acts as agent for the Minnesota Farm Bureau Service Co. for its fertilizer.

His reply to the question, "Why did you add the fertilizer line?" was "It gives me something to do in the slack season, and it does not take any more help."

"We don't own the fertilizer we handle," Mr. Ogle explains, "we act as agent for the Farm Bureau Service Co. It is a good way of doing business, for several reasons."

(1) Other than the initial expense of buying a spreader we have no investment.

(2) The plan works well in a business as highly competitive as the fertilizer game.

(3) There is less risk.

(4) The supplier carries much of the advertising program.

The fertilizer plant, which is the source of supply, is only a mile from Mr. Ogle's place of business. "This is fortunate for us because without this advantage we probably would not be in the fertilizer business," he says.

"About 95% of the fertilizer we handle is in bulk," says Mr. Ogle. "We arrange with the owner of a bulk truck for spreading service. The operator is paid $2 a ton plus 50¢ an acre for his service. We don't get a commission on this service, but it pays as a business builder."

Mr. Ogle is also having a spreader built for rental to farmers.

The firm's pricing schedule goes like this: a discount of $4 a ton is given if the material is taken in bulk and an extra $2 if it is picked up at the plant.

Discounts also are given for early buying, starting with $4 a ton in September and tapering down to zero by April first.

Mr. Ogle has some special employee plans for handling his five employees. "A paid vacation and adequate pay is the best way to handle help," he says, "but in addition to this we never openly criticize a man, because we feel if the pupil has not learned, the teacher hasn't taught. If the man can't learn we let him go."

His men learn all phases of the business, including the sale of fertilizer.

An important cog in the machine is Mrs. Ogle, an experienced bookkeeper who keeps the books.

Mr. Ogle considers soil testing to be of high importance.

"In our feed business the proper feeding of livestock is stressed and likewise the proper feeding of the soil is emphasized in the fertilizer business."

Soil samples are sent to the University of Minnesota soil testing laboratory and are paid for by the dealer. Farmers interested in testing are encouraged to sign up for the service.

Good public relations work has top priority in Howard Ogle's business and $1,800 a year is spent in this way.

Advertising plans include: 1) a radio program every weekday morning; 2) advertising in the local press and school papers; 3) customer meetings; 4) serving coffee at the store; 5) buying candy for the youngsters; performing tricks of magic at farm organization meetings.

"The best money we spend is what we use in buying candy for the kids," he says. He thinks the youngsters have considerable influence over their parents in getting them into the store.

Mr. Ogle has a knack for magic, and it has helped bring in business, especially before "we get well acquainted," he says. "Many farmers have had their curiosity aroused, and come in to see what kind of business this man Ogle is running."

As a feature of his radio show Mr. Ogle mentions some farmer's name in the early part of the program. If the farmer mentioned phones in before the show is over, he gets a dollar next time he comes to the store.

"It gets people into the habit of listening to our program," Mr. Ogle notes.

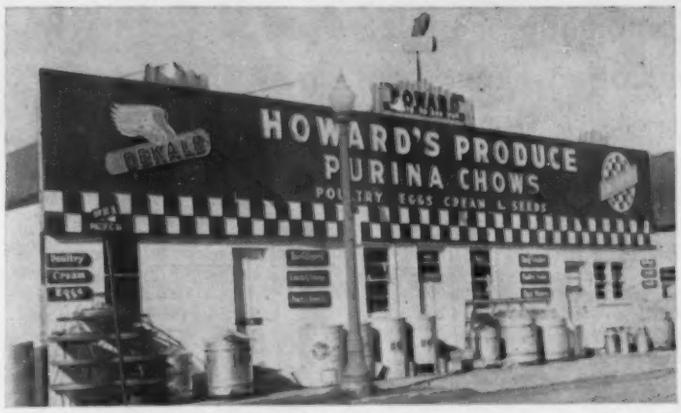
Some practices which he feels help make a fertilizer business successful include: 1) quality merchandise; 2) good public relations; 3) honesty; 4) service; and 5) courtesy.

On the subject of credit, Mr. Ogle says that too much of this has ruined as many people as have been ruined by too little credit. The firm carries no notes, but if a man needs credit, he is helped to get it at the bank. Fertilizer is sold on a cash in 10 days basis.

An interesting side light to the company is the horseshoe court in the back yard. It brings in many customers, Mr. Ogle says.

As far as the future is concerned Howard Ogle expects the fertilizer business to expand. "We have only scratched the surface. The business can be increased by giving spreading service, because at 50¢ an acre the farmer cannot afford to take time from his production work to spread fertilizer."

A portion of the owner's philosophy is, "We buy the farmer's produce, help him get more produce by selling him feed and then help him get more feed by selling him fertilizer."



THIS NEW store front at Howard's Produce, Benson, Minn., actually covers the three original buildings which the firm took over.

Fertilizer Program Helps Georgia Farmer Win Award

TIFTON, GA.—An outstanding fertilization program was a factor which figured in the selection of Ralph J. Balkcom, of Colomokee community of Early County, Ga., as the "Master Farmer of the Year" among former students of Abraham Baldwin Agricultural College in Tifton. With the honor went an engraved plaque.

The "Master Farmer" is chosen annually by a committee on a basis of records submitted by individual farmers who are former students of Abraham Baldwin.

Mr. Balkcom, who lives with his wife and two young sons, near Blakely, Ga., has a farm of 940 acres of which he cultivates 375 acres, with 225 in pastures and 340 acres in forests.

Mr. Balkcom fertilizes his crops well on basis of soil tests. He has also completed 75% of a soil conservation plan. Various aspects of his fertilization program are as follows:

He grows 65 acres of cotton on which he uses 600 lb. 5-10-15 fertilizer and 60 lb. nitrogen per acre, and makes over a bale per acre.

He grows 125 acres of peanuts after corn which has been heavily fertilized the year before, and makes above average production. He applies 300 lb. 4-12-12 to add to the fertility already in the soil following the corn fertilization of the year previous.

Mr. Balkcom grows 125 acres of corn, making 60 to 70 bu. an acre, which is twice the state average. He uses 500 to 700 lb. 4-12-12 per acre, with 80 to 100 lb. nitrogen for sidedressing.

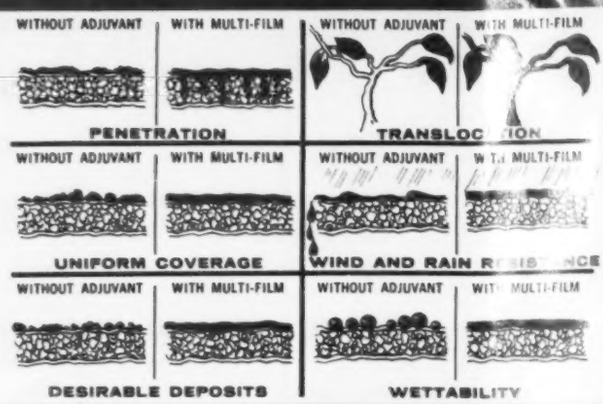
He grows 40 acres abruzzi rye and oats, with some wheat, using 300 to 400 lb. 4-12-12, and 50 to 70 lb. nitrogen. He grows 25 acres of blue lupine for cover crops.

In permanent pastures Mr. Balkcom has 175 acres of bahia and Coastal Bermuda. For temporary pasture he has 50 acres of abruzzi rye and rye grass. Both are well fertilized.

Canadian Bulletin

WINNIPEG—"Stored Grain Pests and Their Control in the Prairie Provinces" is the title of a new bulletin released by Line Elevators Farm Service. Author is F. L. Watters, entomologist-in-charge, Stored Products Insect Section, Research Branch, Canada Department of Agriculture. The bulletin describes the insects and other pests that prey upon stored grain, conditions under which they thrive and multiply and, most of all, the methods that have been found most effective and economical in preventing their ravages.

MULTI-FILM ADJUVANTS FOR AGRI

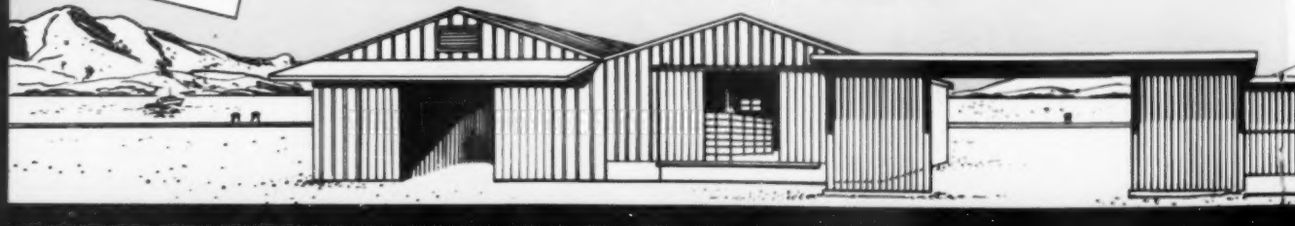


The *correct* adjuvant can vastly improve the effectiveness of fungicides, insecticides, herbicides or defoliants and often makes the difference between success and failure of a treatment. When formulated for a particular chemical and treatment, the adjuvant will impart to the chemical certain characteristics that increase the chemical's effectiveness. Depending on the requirements of the program, the adjuvant will promote *either* greater penetration, translocation, more uniform coverage, stronger resistance to wind or rain, improve deposit characteristics, improve wettability, *or any combination of desirable functions.*

As no one adjuvant can be all things to all chemicals in all applications, Colloidal Products builds a variety of adjuvants specially formulated for specific uses. Each adjuvant imparts properties that results in the spray chemical performing its required functions more effectively and economically. Often, ten cents worth of MULTI-FILM adjuvant used in conjunction with five dollars worth of insecticide, fungicide, herbicide or defoliant will change poor control to outstanding results. MULTI-FILM adjuvants insure the best performance of a spray program.

The extensive MULTI-FILM formulae cover all application objectives in all areas of agricultural chemicals. Traditionally, the chemical manufacturer or applicator submits his problem to Colloidal Products Corporation or its distributors. In instances where new chemicals are developed or new application problems arise, Colloidal Products Corporation researches and develops appropriate new MULTI-FILM formulations. Only Colloidal Products Corporation offers this facility to the agricultural chemical field.

Since 1920, Colloidal Products Corporation has specialized exclusively in research, development, manufacture and marketing of adjuvants for agriculture and has often pioneered the most important advancements in the field. United States Department of Agriculture investigators, state colleges and various agricultural research groups are constantly on the alert to advise Colloidal Products Corporation of new problems as they arise. It is from this information plus Colloidal's continuing field investigations that, historically, the first practical adjuvants for herbicides, organic pesticides, systemic insecticides and cotton defoliation chemicals by air application were developed.

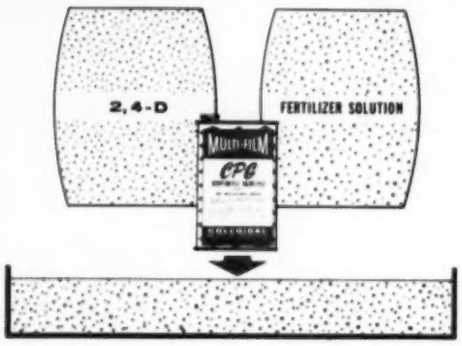


1920

1935

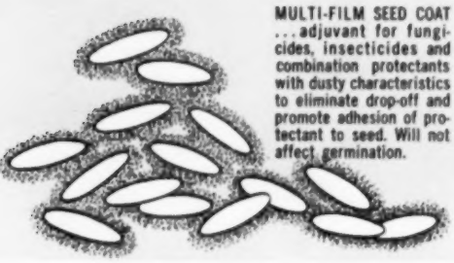
1940

As agricultural chemicals and application methods change, MULTI-FILM adjuvants are developed to conform to new conditions. For example: in the field of insecticides for fruits and vegetables, FLUXIT was originally formulated for lead arsenate and improved the uniformity of coverage. Later, when the codling moth situation became extremely serious in the Pacific Northwest, a new dry formulation, COLLOIDAL 77, was developed that when used in conjunction with mineral oil increased the deposition and effectiveness of lead arsenate. When DDT replaced lead arsenate, an entirely new formula, MULTI-FILM Z-1, was introduced.

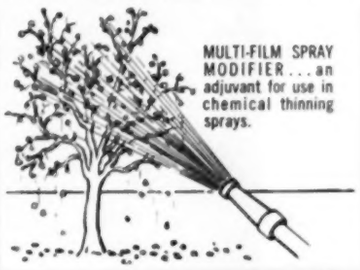


MULTI-FILM CPG, dispersant adjuvant, stabilizes a combination of two otherwise incompatible chemicals and permits a single application in place of two. Combined with 2, 4-D-fertilizer solution, MULTI-FILM CPG promotes homogenity and increases stability during application. It makes possible reconstitution of the mixture following shutdown of application rig overnight. Provides some corrosion inhibition and wetting properties important to aerial application. CPG is also effective with many fertilizer solutions in combination with numerous pesticides.

THE FOLLOWING ARE SELECTED EXAMPLES OF MULTI-FILM ADJUVANTS AND THE SPECIFIC APPLICATIONS FOR WHICH THEY WERE DEVELOPED.

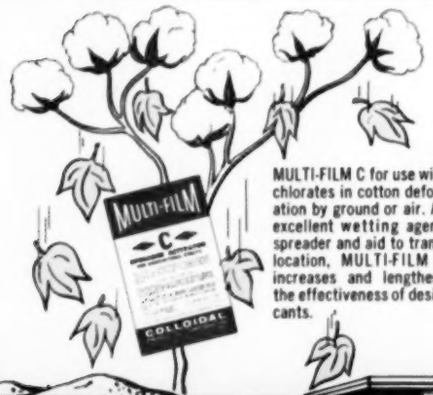


MULTI-FILM SEED COAT ... adjuvant for fungicides, insecticides and combination protectants with dusty characteristics to eliminate drop-off and promote adhesion of protectant to seed. Will not affect germination.

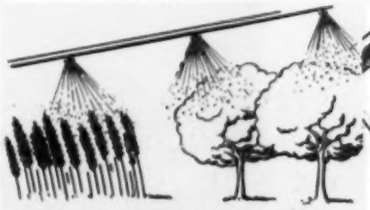


MULTI-FILM SPRAY MODIFIER ... an adjuvant for use in chemical thinning sprays.

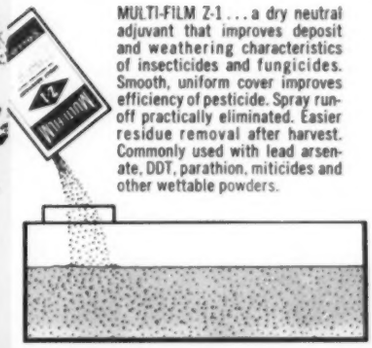
MULTI-FILM X-77 ... an excellent wetting agent, spreader, penetrant and aid to translocation for most agricultural chemicals.



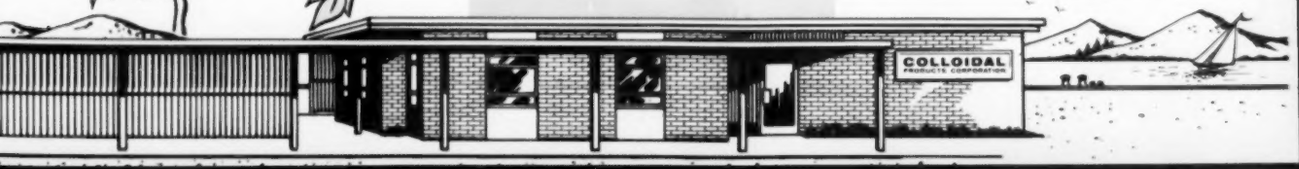
MULTI-FILM C for use with chlorates in cotton defoliation by ground or air. An excellent wetting agent, spreader and aid to translocation, MULTI-FILM C increases and lengthens the effectiveness of desiccants.



MULTI-FILM L adjuvant for 2,4-D herbicide application on wheat and for copper sprays on deciduous and citrus trees. Creates droplets of uniform particle size for more uniform distribution and effective weathering resistance. Especially important in aircraft application.



MULTI-FILM Z-1 ... a dry neutral adjuvant that improves deposit and weathering characteristics of insecticides and fungicides. Smooth, uniform cover improves efficiency of pesticide. Spray runoff practically eliminated. Easier residue removal after harvest. Commonly used with lead arsenate, DDT, parathion, miticides and other wettable powders.



COLLOIDAL PRODUCTS CORPORATION

ADJUVANTS FOR AGRICULTURAL CHEMICALS SINCE 1920

SAUSALITO, CALIFORNIA

EDgewater 2-0974

DISTRIBUTED BY

FARM SERVICE DATA

EXTENSION SERVICE REPORTS

Cotton fertilizer experiments gave varying results at seven locations in eastern Arkansas in 1959. The tests were conducted by the University of Arkansas' Eastern Arkansas Branch Soil Testing and Research Laboratory at Marianna with cooperating area farmers.

Richard Maples and Dr. J. L. Keogh, with the Agricultural Experiment Station staff, reported the following general trends from the tests:

Phosphate application increased yields and advanced maturity at five of the seven sites. This tendency was most pronounced on sandy loam soils of medium fertility. Phosphate did not influence maturity and yield on one silt loam soil and on one clay loam soil, both of which tested high in phosphate.

Potash increased yields significantly in two experiments but not in a third test—all on soils of medium potash fertility. At one location, a heavy broadcast application of potash delayed maturity and depressed yields, Mr. Maples and Dr. Keogh summarized.

Nitrogen fertilization trials were included in three of the tests. In one of these tests, 60 lb. of nitrogen an acre gave highest total yields and highest yields at first picking. However, nitrogen did not significantly influence yields in the other two tests.

The above results are part of a continuing series of tests designed to study response of cotton to fertilizer on soils of varying fertility levels.

Favorable weather during most of the 1959 growing season resulted in early fruiting and maturity of cotton. Yields ranged from 1½ to two bales of cotton per acre in the tests reported.

★

Liming acid soils pays dividends in at least five major ways, reports Clinton A. Hoover, University of Nebraska extension agronomist, in a statement cited here by the National Plant Food Institute's Midwest division:

1—Lime makes available for crop use greater amounts of phosphate, potash, magnesium and other elements.

2—Lime stimulates soil bacteria and speeds up the decay of organic matter. It helps release available nitrogen to the soil for plant use.

3—It increases forage yields and helps get better stands by supplying calcium for calcium-hungry legumes and nitrogen-fixing bacteria.

4—Lime is a profit-building practice on non-legume crop systems. It helps increase yields, Mr. Hoover said. "You know fertilizer you apply, many times without the to crops other essential nutrients except this ments, and reduces the solubility of certain harmful minerals. It improves the quality and feed value of crops.

5—Liming acid soils helps improve soil structure and tilth. It increases the moisture intake, provides better soil aeration and decreases soil washing and blowing.

Mr. Hoover emphasizes that lime should be applied according to soil test information. In this way you get maximum efficiency and the most return for each dollar invested.

"Lime can be applied any time during the year and any time during the cropping sequence," says Mr. Hoover. "Best results are obtained with legumes when lime is added six months to a year ahead of the seeding. In a grain crop system without legumes, it makes no difference when lime is applied. The main point is to make sure it gets on."

★

High levels of potash fertilization are important for high yields and quality of sweet potatoes, Hugh A. Bowers, Clemson College extension truck crop specialist, says.

Mr. Bowers says that according to recent research reports, 209 lb. of actual potash was removed from the soil by a 365-bu.-per-acre yield of sweet potatoes.

The work also indicated that magnesium must be readily available for the plants to make use of the high levels of potash. The low magnesium content of sandy soils and the rapid loss of magnesium by leaching would justify the addition of magnesium to sweet potato fertilizer.

Mr. Bowers suggests that fertilizer mixtures contain 2% magnesium oxide. Other possible sources from which the magnesium oxide can be obtained are sulfate potash — magnesia, magnesium sulfate, and dolomitic limestone.

★

Michigan farmers use three times as much fertilizer now as they did in 1950.

"That's one of many marked changes in fertilizer technology over the last decade or two," said Ray L. Cook, head of the Michigan State University soil science department.

"Back in the 1930's," Mr. Cook stated, "many farmers used little or no fertilizer. Low-grade ammonium sulfate supplied most of the nitrogen. Superphosphate provided the phosphorus. No one had ever heard of using more than 250 lb. an acre."

Now ammonium sulfate has largely given way to ammonium phosphates, ammonium nitrates, urea, ammonium solutions and anhydrous ammonia. Anhydrous contains 82% nitrogen.

"What's more," added Mr. Cook, "300-600 lb. total applications have become common."

"Non-legume crops used to starve for nitrogen unless they followed legumes," he recalled. "Corn often suffered that fate."

Today, non-legumes are replacing legumes on many farms. Acres that once got 5 lb. of nitrogen now receive 100 to 150 lb. from commercial fertilizers.

"Soils once needed more of almost all nutrients," the scientist said. "Balance between fertilizer elements didn't seem important."

But nowadays, nutrient balance gets plenty of attention. Soil residues are building up. They may reach dangerous levels as applications increase.

"The good manager fertilizes in proportion to yield," Mr. Cook pointed out. "That is, he puts the most plant food on his best soils. Soil tests play a big part here."

SAFETY RULES FOR PESTICIDE USERS

The use of pesticides to control the pests that attack our crops is necessary if we are to continue to produce enough food for our ever-increasing population. However, care must be used in handling these products.

The National Agricultural Chemicals Assn. has published the following simple rules that, if followed, will minimize the danger of these products to the user and to the consumer of the treated crops.

1. ***ALWAYS read the label before using sprays or dusts. Note warnings and cautions each time before opening the container.***
2. ***Keep sprays and dusts out of the reach of children, pets and irresponsible people. They should be stored outside of the home and away from food and feed.***
3. ***ALWAYS store sprays and dusts in original containers and keep them tightly closed. NEVER keep them in anything but the original container.***
4. ***NEVER smoke while spraying or dusting.***
5. ***Avoid inhaling sprays or dusts. When directed on the label, wear protective clothing and masks.***
6. ***Do not spill sprays or dusts on the skin or clothing. If they are spilled, remove contaminated clothing IMMEDIATELY and wash thoroughly.***
7. ***Wash hands and face and change to clean clothing after spraying or dusting. Also wash clothing each day before reuse.***
8. ***Cover food and water containers when treating around livestock or pet areas. Do not contaminate fish ponds.***
9. ***Use separate equipment for applying hormone-type herbicides in order to avoid accidental injury to susceptible plants.***
10. ***ALWAYS dispose of empty containers so that they pose no hazard to humans, animals or valuable plants.***
11. ***Observe label directions and cautions to keep residues on edible portions of plants within the limits permitted by law.***
12. ***If symptoms of illness occur during or shortly after spraying or dusting, call a physician or get the patient to a hospital immediately.***

Mr. Dealer: Clip These Rules and Post for Customer Use

AN EMPLOYEE of the Yeiser Farm Store in Winchester, Ky., shows a young customer a hand spray unit. The firm believes in displaying sprayer items where the customer can see and touch them, thereby increasing sales.

A BULLETIN BOARD is an interest-raising area at the Yeiser Farm Store. Pictures of customers in action, pictures clipped from newspapers, timely news notes and ads are pinned to the board to attract customers.

WEED SPRAYS are a popular item at the Yeiser Farm Store in Winchester, Ky. Here Lawrence Wolfe (left), farm department manager, discusses a new type of spray with an interested customer.

Crop Spraying Adds Volume For Kentucky Farm Store

By AL P. NELSON
Croplife Special Writer

There are several unique features about the Yeiser Farm Store, Winchester, Ky., and one of them is an airplane duster service.

Lawrence Wolfe, manager of the farm store, states that his store contracts with a duster to handle the jobs they secure. He charges about $4.50 per acre for dusting. Last year the store dusted 4,000 acres in the area.

"Usually the spraying and dusting is done twice seasonally for tobacco crops," states Mr. Wolfe. "Some dusting and spraying by plane is done by large tobacco growers, while smaller growers use hand or power sprayers. Quite a number of farmers buy soil insecticides from us."

The store also sells field identification cloths to farmers. The farmer who contracts for a dust or spray job stakes one of these cloth markers in fields to inform the pilot which fields are on the contract, and he can operate accordingly.

Mr. Wolfe has a large bulletin board which abounds with photographs about fertilizers, farm chemicals, feeds and other farm supplies. He has a camera and takes many pictures during the year. These pictures are used in ads and for bulletin board displays. All these photos create interest in the board and attract the attention of more farmers.

About a year ago the owners remodeled the front of their building and put in a Bantam Super Market, stocking foods, meats and frozen foods. This has proved to be a profitable venture, for the store traffic has increased about 100%.

The farm supplies department is directly behind the grocery store, and a wide aisle leads into it. Mr. Wolfe, in the remodeling process, has arranged some very excellent displays of fertilizer, farm chemicals, sprayers and related items.

"Our farm department traffic has increased about 50% as a result of the opening of the food store," he states.

"While many food store customers come from the city, many farmers also come in. These are often farmers we might not otherwise reach. However, many of them wander into the farm department, attracted by the displays, and so we often sell them."

Another important phase of this firm's business is the fact that a full-time field salesman is employed. He sells feed, fertilizer and farm chemicals. He manages to contact all farmers in the trade area and frequently gets fertilizer orders far ahead of season. He also manages to sell many farm chemicals during the spring and summer season.

"This far flung program of contacting many farmers is paying off in our farm department," reports Mr. Wolfe. "The salesman invites farmers to come in and look at our new department. Usually such visits result in sale of poultry and livestock products, or fertilizer, or farm chemicals, or a combination of items."

A sales producing feature of the new store is the way in which new shelving has provided for the display of additional stock. Painted a light cream, the shelving is so arranged that packages and bottles of insecticide and other stock show up well without crowding, and yet a great deal of merchandise is shown.

A low aisle area step-up display is used for the showing of sprayers during the spring and summer season. Customers can easily see and touch the sprayers, an important part in furthering the sale, believes Mr. Wolfe.

"Due to our increased traffic in the new store," reports Mr. Wolfe, "we do a lot more in-store selling than we used to. This shows the power of effective display, I think."

Recently the firm added a series of bulk feed storage tanks. Farmers can now come in and get 1,200 lb. or more of complete feeds in bulk. This service has increased the farm trade considerably and has been reflected in additional fertilizer and farm chemical sales, too.

H. H. Shepard Honored In USDA Award

WASHINGTON — Dr. Harold H. Shepard, chief of the Agricultural Chemicals Staff, Food and Materials Division of the Commodity Stabilization Service, received a Superior Service Award from Ezra Taft Benson, secretary of agriculture, on May 17. The award was for leadership in developing, improving, and publishing pesticide statistics; and for significant contributions to defense planning relating to emergency distribution of agricultural chemicals.

Under Dr. Shepard's supervision two publications well known to Croplife readers—"The Pesticide Situation" and "The Fertilizer Situation"—are issued annually. His book, "The Chemistry and Action of Insecticides," is a standard reference work. Dr. Shepard, as editor, in collaboration with other authorities in their respective fields, has issued two volumes of the manual "Methods of Testing Chemicals on Insects."

MARKET ANALYST NAMED

SKOKIE, ILL. — Merrill M. Parsons has joined International Minerals & Chemical Corp. as agricultural market analyst. He has been assistant director of marketing for the American Meat Institute, Chicago. Mr. Parsons received a master's degree in agricultural economics from Michigan State University.

New Bulletin Discusses Citrus Nutritional Ailments

RIVERSIDE, CAL.—A publication designed to help citrus growers find out how well their trees are doing nutritionally has been issued by the University of California.

The manual brings together for the first time existing information on how to diagnose and correct citrus nutritional ailments.

Written by Homer D. Chapman, of the Department of Soils and Plant Nutrition on the Riverside campus, the work is entitled "Leaf and Soil Analysis in Citrus Orchards."

OSCAR & PAT

By Al P. Nelson

It was Friday night in the little town in which the Schoenfeld & McGillicuddy Co. farm supply firm operated. Oscar Schoenfeld, one of the partners, had been downtown shopping with his wife, Minnie. Each carried a bundle of groceries. They had tramped to five stores to get the items, because of Oscar's comparative price shopping.

"Oh, Oscar," said Minnie breathlessly, "I'm getting so tired. Can't we go past the store and get the light truck? There's still six blocks to go home."

"Ach, all right," Oscar said. "I have the keys to the garage with me."

As Oscar and his wife came around a corner and approached the farm supplies store, Oscar stopped short. "Himmel, there's a light in the salesroom. Ach, it is full of light. Who iss there?"

Instinctively, Oscar increased his pace, his pudgy body and legs animated with energy. Minnie came tagging behind, groaning at every step for her legs pained.

"Oscar," she begged, "if it's Pat there, don't start a fight. You know he likes to work nights. Please."

"He shouldt work days the same as the rest of us," grunted Oscar. "Our schtore is not supposed to be open nights. That Irisher can't make new rules for himself. I own half the schtore."

By the time Oscar got to the store, he had worked up quite an anger. The sight of so much light in the salesroom irked him; such extravagance sent up the power bill.

The door was locked and this made Oscar more angry. He peered through the glass and saw Pat and his wife Nora arranging a display. Angrily Oscar pounded on the glass.

In a moment Pat came to the door and peered through the glass. "Ach, let me in!" thundered Oscar.

Pat worked at the lock and a moment later the door opened. Oscar barged in, two bags of groceries in his arms.

"Ach, what are you doink here after working hours?" he barked. "Schemink up new ideas?"

Pat flushed a little. "I'm doing some work which will help this firm attract more customers and sell more merchandise, Oscar. That's the purpose of our firm. Without sales, we won't make any profit."

Oscar snorted. "Ach, more crazy ideas."

"Nora," said Pat calmly, reaching into his pocket for a dollar bill, "I don't think wives should be in on partners' quarrels. Why not step over to the drug store and get a malted? And take your time. Then Oscar and I can argue by ourselves."

Nervously Nora moved toward the door. Then she saw Minnie. "Oh, Minnie, come with me. I'll treat you to a malted." Then she turned to the men. "Remember—" she warned. "You need each other!"

"Ach," said Oscar as the women left. "I don't needt you. What monkey business are you up to now, McGillicuddy?" He strode through the store. Now he noticed a large number of small and medium sized signs. Some were painted in black, some in red.

One sign read, "Hand Sprayer. Only $3.75. Every gardener needs one." Other signs detailed features of fertilizer, lawn and garden tools and other items.

"These signs will help us sell more merchandise, Oscar," said Pat patiently. "I read the other week that people remember 3/10 of what they see and only 1/10 of what they read. So I decided on these signs."

Irritably Oscar picked up a sign. "It's new cardtboardt," he exclaimed. "I don't like it. The schtore looks like a junk shop with all those signs stickink aroundt. Andt new cardtboardt costs money."

"I had to buy some," Pat said. "I used the backs of some old suppliers' signs for a few signs. And Nora painted them. She's clever that way. The cost to us is just for some cardboard and a little paint."

Oscar snorted angrily. "Why can't you talk these things over with me?" he growled. "I am a partner."

Pat's lips thinned. "Why don't you tell me when you're going to take discounts on bills and pay them and use so much of our money that there's not enough left to pay the employees on Saturdays and also us?"

"I don't haf to ask you aboudt discounts," Oscar cried. "I know my business on them."

"And I know my business on sales promotion," put in Pat.

This argument went on for almost half an hour. Finally the door opened, and in same a stern faced Nora and a cringing Minnie.

"It's perfectly silly for you two men to argue," Nora said. "You know you can't get along one without the other. So why won't you accept this fact?"

"Ach, and if Pat hadt his way, we would schtay open 24 hours a day and gif away pencils, pens, roses and free doughnuts all the time just to get a bunch of free loaders to come in and schlap us on the back andt tell schtories."

Nora did not flinch. "You are both acting like a couple of spoiled boys," she said sternly. "This business is prospering. Two families are living from it, and the profits are better every year—even though you do have collection and other problems. But business always has problems.

"I think it's time to go home," Nora said. "Minnie says you've got groceries. Pat, let's give them a ride in our station wagon. Then they won't have to walk. I think everyone has worked hard enough today. This is a good business—even if it has problems."

MEETING

(Continued from page 9)

operate its new bulk warehouse. Mr. Roe's problem was to use the meeting as a means of moving into new territory and to acquaint farmers favorably with the new type service.

As a first step, a combination meeting-dance was called for, to give social as well as business atmosphere and to bring as many wives as possible to learn of the facility.

Two weeks ahead of time, Mr. Roe and Mr. Gildner had gone over their checklist and completed arrangements for the following:

The hall, an orchestra, food from a local catering service, door prizes (10 prizes totaling 7½ tons of the company's Gro-Gold fertilizers), and flowers for the ladies and for the hall.

With these physical problems settled, they went ahead on the program. Within three days, two speakers on plant nutrition were secured—Norman Standish of Cyanamid Company of Canada, and Dr. James Engibous of International Minerals & Chemical Corp.

A copy of the film "Spark Plugs of Plant Nutrition" was reserved. This 19-minute color movie on the importance of minor elements was produced jointly by the National Plant Food Institute, University of Illinois, University of Wisconsin, and IMC.

Invitations

Eight days before the meeting, every farm family within a 10-15 mile radius of Wallaceburg received an attractive folder-type invitation to the "party." Enclosed was a ticket for the door prize drawing.

Four days ahead of time, a follow-up reminder postcard went out, and on the final two days, personal telephone solicitation was conducted to insure the large turnout.

The intensive personal invitation campaign was necessary because the meeting could not be advertised—the dancing and refreshments might attract many persons other than the potential customers Bulk Fertilizer, Ltd., wanted to reach.

A rehearsal was held the day of the event to insure smoothness; speeches were studied and timing confirmed.

On the Tuesday evening of the event, some 700 persons were on hand shortly after 7 p.m.—about 200 couples and 300 farmers who came alone. Bulk Fertilizer was well prepared to greet them, with the program set and the hall gaily decorated, including a display of Gro-Gold and other products.

Keep Gals' Interest

To keep the ladies interested, the program had to move more sharply than the average farmer meeting. The color movie aided. Colored slides, well synchronized during rehearsal, added interest to the talks.

Mr. Roe spoke briefly on his company and its plans to serve the Wallaceburg area. Closing the formal part of the program, a girl with a Gro-Gold sack over her dress drew for door prizes. These features combined to keep the audience receptive, and even the women showed interest.

Buffet type refreshments and the dance followed at 9:30 p.m., the last couples leaving by 1 a.m.

The program served its purpose in attracting business to Bulk Fertilizer, Ltd.

"Since holding the meeting, many new customers have given us orders for early delivery," Mr. Roe said. "We have also had many customers drop in to discuss minor elements.

"We feel that this is a decided step forward in our favor in that it has taken us away from selling only on price and put us into the quality-product field."

Mr. Roe said early indications from Wallaceburg were that spring sales of bulk fertilizer will "increase considerably."

Later Meeting

The tobacco farmer meeting six weeks later offered a different problem. It was held at the company's home town of Delhi, where farmers already knew of Ontario Plant Foods. Mr. Roe's primary aim here was to generate greater interest in the company products and in all the elements important to tobacco fertilization.

This time the approach was through advertising and publicity. Copy layout and media were planned well in advance for use in three ways—posters, newspaper ads and radio spot announcements.

Copy stressed the qualifications of the speakers, the question-answer period and the benefits to the grower.

Two hundred posters were tacked on poles and placed in prominent spots in town. Two weekly newspapers carried quarter-page ads, and radio announcements were run right up to the day of the meeting. Thus it was no surprise when 350 showed up for the 8 o'clock Tuesday meeting in Delhi District German Hall.

Careful planning and checking again insured a top program. Speakers were Milt Watson, extension specialist at the Delhi Station; Dr. G. S. Cooper of Cyanamid of Canada; and Dr. William T. Dible of IMC. Mr. Watson discussed soil testing and record keeping. The other speakers covered nitrogen, phosphate, potash, magnesium and other elements in tobacco fertilization. Lee Vickrey, head of the Delhi station, was in attendance for consultation.

"Spark Plugs of Plant Nutrition" was shown, slides were used, and the speakers joined as a panel to answer questions. Refreshments were served in time for an 11 p.m. closing.

Again the planning, rehearsal, decorations, refreshments and drawing for Gro-Gold prizes contributed to an interesting and educational evening.

Results Similar

"Results were similar to those at Wallaceburg," Mr. Roe said. "We had a lot of excellent comments about the type of meeting and the information given by the well-versed speakers."

As Mr. Roe will attest, drawing hundreds of people to farmer meetings is not an easy task. And keeping the audience interested and informed requires forethought, attention to detail, and wise planning. But the rewards of such successful meetings are well worth the time and effort needed to make them click.

NPFI

(Continued from page 1)

lem. Many organizations, agencies and institutions are involved. Fertilizer manufacturers, mixers, distributors and dealers have a role to play. Educational institutions and agencies, such as extension, soil conservation service, and vocational agriculture have a responsibility. Mass media publications have their line of communication. Other groups such as farm managers, bankers, landlords and credit agencies have their role to play.

"Research evidence points up the important role of the fertilizer dealer in the farmer's decision-making process regarding fertilizer use. For instance, 96% of the farmers expect the fertilizer dealer to be a reliable source of information about fertilizer."

Drs. Bohlen and Beal said that "farmers not only expect their fertilizer dealer to know the answers to their fertilizer problems, they also expect them to make fertilizer use recommendations to them," pointing out that the Iowa State University research project revealed that "(1) 96% of the farmers said they thought their fertilizer dealer should be a reliable source of information about fertilizer; (2) 79% said they expected their fertilizer dealer to recommend the method by which they should apply the fertilizer; (3) 60% said they expected their fertilizer dealer to recommend the amount of fertilizer to apply; (4) 69% said they thought their dealer should recommend the analysis of fertilizer for them to use."

In discussing the various degrees of selling effectiveness on the part of dealers, the Iowa sociologists said that 73% of the fertilizer business is done by only 26% of the dealers in the scope of their survey. They emphasized that the bigger dealers not only sold more tonnage, but also enjoyed a better margin of profit. Characteristic of the better and more prosperous dealers, they said, were factors such as a better knowledge of the product; progressive ideas; offering more services such as soil tests, bulk spreading, clinics and demonstrations, as well as service discounts such as offering an incentive for taking fertilizer in the off-season. "These dealers are actually consultants . . . not mere counter men," Dr. Beal emphasized.

Markups on fertilizer products were generally less than that of many other lines carried by the dealer, it was noted. Fertilizer markups varied from as low as 1% up to 35%, with an average of 9.3% as compared to an average of 14% in other lines.

Dealer attitudes were also recorded by the sociologists. The fertilizer department in farm stores was described as being a good money-maker by 26% of the operators; as an important customer-maker by 31%; as "just another service" by 26%, and as merely a means to compete with other stores by 15% of those surveyed in Iowa.

As to potential for fertilizer sales, 22% termed them excellent and 27% as "money makers." However, 27% said the margin of profit is inadequate.

The speakers urged the industry to improve its communications with the dealers and to provide more "know-how" to help them operate more efficiently and more profitably.

Underlining points made by Drs. Bohlen and Beal in their talk, Murray C. Renick, president of the Rolla Feed Mills, Inc., Rolla, Mo., declared that fertilizer manufacturers "have a challenging opportunity to help a dealership grow and prosper, by furnishing him know-how and by providing him with the necessary tools to operate a successful farm supply store."

He spoke on the subject of "What a Dealer Should Know."

"I sincerely believe that your salesmen should be trained so that they can give guidance to dealers who so desperately need help," he said. "Most salesmen are of little help to us dealers, as they are not properly trained. I believe that the fertilizer industry should have trained personnel, on a national or local level, so that they may hold training meetings with dealers, monthly or semi-annually, to guide them in merchandising, selling, incentive plans, credit control, and profit possibilities."

Describing the type of dealer who "will survive and be successful in the future," Mr. Renick said:

"First of all, this dealership must be larger than the farmer he is serving. Today, it is big business, big government, big farmers, big society and big finance. This dealership must have everything for the buyer's needs.

"The head of the dealership of the future must have leadership capacity, honesty, be active in civic affairs, and above all, he must be a salesman. This 'boss man' must be enthusiastic.

"Beyond the human element, the physical assets play an important role in the successful dealership. He must have a modern place of business, clean, well displayed merchandise of the highest quality, and a variety of products to service the buying public's needs."

Mr. Renick emphasized that net profits are of utmost importance to the dealer, particularly in 1960 and beyond. He added, however, that too many dealers actually do not know whether they have made a net profit, and if so, how much. He strongly urged the fertilizer industry to help its dealers to adopt methods of record-keeping by store departments so the operator may know what departments are most profitable and why.

The Missouri dealer presented a list of activities which he said would help any fertilizer dealer to improve his efficiency and boost his profit picture month by month. These items included a survey of the market being served; departmentizing the store so one can tell what department may need closer attention; monthly profit-and-loss sheets accurately kept; route sheets for salesmen; truck records to determine the cost of operation and whether or not such equipment is profitable; incentive plans by which sales clerks are encouraged to increase their volume.

The field of credit received a considerable amount of attention by the speaker who urged strict credit controls to avoid unnecessarily long periods of billing. The age of accounts is an important factor in retail operation, he declared.

Various means of advertising to customers were discussed, along with employee training and other factors all working toward more effective merchandising.

Ralph Everett, of Miami, Fla., sales consultant, told the convention that "the leaders of the fertilizer industry during the next ten years will have demonstrated and proven one simple truth—you don't sell just fertilizer, you sell a mental concept of how the farmer can benefit from your soil fertility plan."

"A prospective buyer will pay you untold sums of money for good ideas and not one red cent for the product you have to sell," he continued. "What he buys, in reality, is not the product you sell but a mental concept of what your product will do for him. Will it make him happier? Will it save him time? Will it make him more popular? Will it save him embarrassment? Will it make him more efficient? Will he be recognized as an authority?"

"You don't sell fertilizer," he emphasized, "you sell mental concepts of what your prospect can get from the use of your fertilizer in the form of a soil fertility program."

Mr. Everett said, "Many farm leaders have awakened to the value of fertilizer and what a good soil fertility plan can mean to them. Around every community are certain farm leaders who can understand the value of such a soil fertility plan. These farm leaders are using enough fertilizer to justify this kind of service." He emphasized that he knew of no better way of convincing and motivating farmers than for dealers or salesmen "to earn 100% of their farms' needs through the presentation and application of a soil fertility plan."

"Probably no industry has prepared its salesmen with more technical knowledge than has the fertilizer industry," he said. "Fertilizer salesmen are more thoroughly grounded in the chemical composition of their product and the technical aspects of their business than any other sales force in history. Probably no industry has spent so much time indoctrinating their salesmen in the technicalities of their product than has the fertilizer industry. Technical experts working for fertilizer manufacturers have done their job well.

"All too frequently, the sales presentations which I have heard fertilizer dealers and salesmen present have been so full of technical 'nuts and bolts' that barriers of confusion and indecision have obscured the mental pathway to comprehension and motivation in the prospect's mind. Nearly always these barriers have been placed there unintentionally because of improper understanding of how a sale is actually made."

He said that, obviously, salesmen and dealers must know their product, but as much as 95% of the sales effort has been on the technical features of the product and only 5% or less on the human element of making a sale."

Mr. Everett said that the farmer is "longing for the fertilizer salesman who can picture his problems, his investments, his ambitions, his goals in life," adding that salesmen who will trouble themselves to learn the processes that go on in the farmer's mind "will have a gold mine that will produce in direct proportion to the work he wants to put in."

Paul T. Truitt, president of the National Plant Food Institute, was in charge of the sessions. Convention delegates were welcomed at the opening session by Richard E. Bennett, Farm Fertilizers, Inc., Omaha, chairman of the institute board of directors, who gave a prevue of the formal convention program.

The program was built around two areas of major importance to the industry, namely, the long range status of the industry to the political economy and the problems of distribution, Mr. Bennett said.

He said that more and more attention must be given to the problems of distribution and marketing and how to improve the distribution system through more effective dealers and dealer relationships.

Mr. Bennett also noted that often the voice of the business community is hard to hear in matters of political economics. "We must ever be vigilant in protecting private, competitive enterprise against all forces that are inconsistent with the principles and protection offered under our competitive system," Mr. Bennett said.

NPFI BOARD MEMBERS

WHITE SULPHUR SPRINGS, W. VA.—Members of the National Plant Food Institute at their fifth annual convention at The Greenbrier on June 13 elected 12 new members to the board of directors for terms expiring in June, 1963. They are: Robert E. Ashcraft, Ashcraft-Wilkinson Co., Atlanta; Arthur Wilkinson, The Consolidated Mining & Smelting Co. of Canada, Ltd., Montreal, Canada; L. Dudley George, Richmond Guano Co., Richmond, Va.; Elwood I. Lentz, Western Phosphates, Inc., Salt Lake City; Ben D. McCollum, J. R. Simplot Co., Pocatello, Idaho; Frank Nelson, The Rath Packing Co., Waterloo, Iowa; Hugo Riemer, United States Borax & Chemical Corp., Los Angeles; Ed N. Shelton, Tennessee Corp., New York City; Wayne H. Shidaker, The Farm Bureau Cooperative Assn., Inc., Columbus, Ohio; C. D. Siverd, American Cyanamid Co., New York City; Tom K. Smith, Jr., Monsanto Chemical Co., St. Louis, Mo.; Fred J. Woods, The Gulf Fertilizer Co., Tampa, Fla.

Gene Van Deren, Bluegrass Plant Foods, Inc., Cynthiana, Ky., was elected to the board to fill a term expiring in June, 1961, and Wm. E. McGuirk, Jr., Davison Chemical Division, W. R. Grace & Co., Baltimore, Md., and Howard A. Parker, Parker Fertilizer Co., Inc., Sylacauga, Ala., were elected for terms expiring in June, 1962.

EDITORS AWARDED

WHITE SULPHUR SPRINGS, W. VA.—Carroll P. Streeter, editor of the Farm Journal, Philadelphia, and William H. Kircher, editor-in-chief of The Farmer, St. Paul, Minn., were presented awards by the National Plant Food Institute, for "superior journalistic contributions in the important field of building our nation's soils."

The editors were winners in the Institute's nationwide "Soil Management Award for Editors" contest of 28 magazine entries.

Richard E. Bennett, Omaha, Neb., chairman of the board of directors of the institute, presented the awards as a feature of the organization's fifth annual convention at The Greenbrier.

Judges for the contest were six nationally-known leaders in the field of agriculture. They were: Julian M. Carter, president, National Vocational Agricultural Teachers' Assn., Inc., Wellsville, New York; Roger Fleming, secretary-treasurer, American Farm Bureau Federation, Washington, D.C.; Gordon K. Zimmerman, executive secretary, National Assn. of Soil Conservation Districts, Washington, D.C.; Carl E. Rose, president, National Assn. County Agricultural Agents, Fayetteville, Ark.; Herschel D. Newsom, master, The National Grange, Washington, D.C., and R. Lyle Webster, director of information, Office of Information, U.S. Department of Agriculture, Washington, D.C.

Scrolls signed by the national judges were awarded to Mr. Streeter, representing the winner among magazines of more than 300,000 circulation and to Mr. Kircher, representing the winner among magazines of less than 300,000 circulation.

Features judged in the contest included stories, editorials, illustrations and combinations of the three categories.

Fire Ant Program Helps Control Other Pests, Arkansas Survey Reveals

EL DORADO, ARK.—When agricultural officials began spraying in Union County against fire ants, they did not realize that the eradication measures would have a two-fold effect.

Now, officials report that the chemicals not only helped control the fire ants, but they also continue to reduce other pests.

Dr. J. L. Lancaster, Jr., associate entomologist, and Bob Watson, research assistant, University of Arkansas, John M. Cravens, county agent, and other officials have just finished the third annual survey of the treated land.

They checked 12,000 acres sprayed in May, 1957, 7,222 acres treated in March, 1958, and in June, 1959. And they surveyed untreated areas of the county in their study.

On April 19, Dr. Lancaster selected dogs to determine the effect of the fire ant control on the tick population.

After checking 19 dogs selected at random from the 12,000-acre section of land, he found only six ticks. Fifteen canines had no ticks, two had only one each and two had two each. The average was only three-tenths of a tick per dog, compared to two-tenths in 1959 and one-tenth in 1958.

Fourteen dogs were checked from the land treated in 1958. Seven ticks—or an average of one-half tick per dog—were found in this bunch.

And 13 dogs selected from the area treated in 1959 had 17 ticks.

Also studied were isolated areas sprayed for local outbreaks of fire ants. These areas turned out to be almost as free of ticks as the large treated regions.

After making a study in treated localities, the researchers turned to checking dogs in untreated areas. And the findings were amazing.

In one area, 23 dogs had a total of 280 ticks. This was an average of 12 2 ticks per dog.

"This survey gave evidence that the imported fire ant treatment not only controlled fire ants, but ticks as well. Ticks are still being controlled after three years and how long this will remain will be interesting to watch," Mr. Cravens commented.

Also controlled were chiggers and crayfish, although they apparently may be starting to make a comeback in some local areas.

Many farmers report there are still no ticks in the treated areas. One woman reported she recently found a tick on her milk cow for the first time since 1957.

And a farmer reports an interesting situation on his farm. Part of his land was sprayed, part was not treated. On the treated area, ticks are still not to be found. But there are plenty of the pests across the line.

NEW DUSTING FIRM

MEEKER, COLO.—Meeker Airport, Inc., has filed articles of incorporation to do business as a common carrier to contract and to engage in the business of crop dusting and planting of crops by the use of airplanes. Incorporators are E. B. Evans, Barbara S. Johnston and Benjamin L. Wright, Jr. Directors include Bern H. Harp, Charles H. Wilson, Kaye Donne Ferguson, Jack W. Russell and Gary C. Coulter.

Best Seeks Building Permit for Plants

LATHROP, CAL.—Best Fertilizer Co. recently applied for a $250,000 building permit to start another section of the plant increase here in the company's sulfuric acid and single super phosphate plants.

The entire addition is expected to cost about $500,000 for the acid plant, and $150,000 for the phosphate plant. The construction will double the production of the acid at Lathrop and will put Best into the phosphate business for the first time.

Dr. William Garman, in charge of Best's research and development, said the phosphate plant may allow the company to go into the insecticide business soon.

Dr. Garman said the company is now experimenting with a couple of combination fertilizer-systemic insecticides, one of legumes and the other for low crops. These chemicals may be ready in about a year. The new plants are expected to open about Nov. 1.

Penick Moves Division Offices to St. Louis

NEW YORK—To facilitate further expansion, the farm chemical and insecticide division of S. B. Penick & Co. will establish new headquarters in St. Louis on July 1, according to Frank Seeland, vice president in charge of the division. The new central location is 4161 Beck Ave., St. Louis 16, Mo.

Products sold by the division will be stocked at St. Louis, providing one more shipping point in addition to those existing for all divisions in New Jersey, Chicago, and on the West Coast.

The main office of S. B. Penick & Co., including the botanical and allied products division and the NYQ chemical division, is located at 100 Church St., New York 8, N.Y. Sales offices for all divisions are maintained in San Francisco, Portland, Ore., Chicago, and New York.

New Production Unit for Weed Killers Announced

NITRO, W. VA.—Monsanto Chemical Co. has announced the start-up of a manufacturing unit at Nitro which more than doubles the company's previous capacity for producing two of its newest weed killers.

The new facility is needed to accommodate the fast growing use of the farm chemicals trademarked "Avadex" and "Vegadex", a Monsanto spokesman says.

"Avadex" is a pre-planting herbicide for control of the wild oat, which now infests more than 60 million acres of cropland in the Great Central Plains of western Canada and bordering U.S. It is available in Canada this year as the first chemical control of this weed to achieve full marketing status.

"Vegadex" controls annual grasses and certain broadleaf weeds in vegetables and some ornamentals. It has more than 35 different crop applications, reportedly the largest variety of uses for any pre-emergence weed killer.

JAPANESE BEETLE THREAT

TOLEDO, OHIO—An infestation of Japanese beetle grubs found on an Ohio golf course is causing concern among Michigan agriculture authorities. The groundkeeper at the Sunningdale Country Club, which straddles the Michigan-Ohio line, said he discovered the inch-long white larvae under a section of turf on the Ohio side of the course. C. A. Boyer, chief of the Michigan Agriculture Department's division of plant industry, identified the larvae as that of the Japanese beetle.

Russia Plans Tripled Fertilizer Output in 5 Years

MOSCOW, RUSSIA—Russia plans to triple her output of mineral fertilizers in the next five years.

This expansion is necessary if Russia is to achieve her farm production goals in the current Seven Year Plan ending in 1965. The plan calls for a 70% increase in production.

This expansion will be achieved through higher yields and an expansion of crop acreage. In recent years, Soviet farm production increases have occurred primarily through increased acreage. From now on, however, higher yields will provide the backbone of bigger production and thus the fertilizers take on a major role.

According to Soviet plans, the production of mineral fertilizers will increase from 12.4 million metric tons in 1958 to 35 million tons by 1965. The increase will be modest in the early years of the plan.

Most of the output will be in the form of low-quality straight fertilizers. Some commercial production of urea will be started during this period, but it will be used mainly as a livestock feed with only limited quantities going to fertilizer.

In the past, the use of liquid nitrogen fertilizers in Russia has been limited mainly to the irrigated cotton-growing regions of Central Asia. But the use of these fertilizers probably will expand considerably in the years ahead. The Russians claim these fertilizers not only are cheaper to transport, store, and introduce into the soil than the solid mineral fertilizers, but also plants to produce them can be built more quickly and cheaply.

The greatest shift in the use of mineral fertilizer is the planned allocation of 10 million metric tons for the fertilization of grain. It will be used on the grain-growing areas in European Russia and much of it will be applied on corn, mainly in the Ukraine. Also important acreages of wheat will be fertilized. By putting 10 million tons of fertilizer on 75 million acres of grain, the Russians expect to boost grain production by about 30 million metric tons. That would be an average increase of about 15 bu. (of 60 lb.) per acre.

The Soviets also plan to use about six million tons of fertilizer on forage crops and three and a half million tons on potatoes and vegetables. The latter reportedly will permit the fertilization of 70% of the potato acreage and 80% of the vegetable acreage on collective and state farms.

Another two million tons of the fertilizer will be used on fruit and tea plantations.

Sludge-Fertilizer Plant Starts in Mississippi

MERIDIAN, MISS. — Groundbreaking ceremonies for the Dixie Fertilizer Co., Inc., recently marked the start of construction of this new industry which will utilize sludge from the municipal sewerage treatment plant.

The plant will contain 50,000 sq. ft. of floor space and have a capacity of 120,000 tons of finished fertilizer annually. Sludge will comprise approximately 30% of the material used in the manufacture of fertilizer.

USDA Announces Foreign Forest Research Grants

WASHINGTON—Four grants for forest research to be done abroad for the U.S. Department of Agriculture under its foreign research program were announced.

Two have been made to the Forest Research Institute in Madrid, Spain; one to the Commonwealth Institute of Biological Control at Bangalore, India, and one to the Pakistan Station of the same institute at Rawalpindi, Pakistan.

USDA's foreign research, conducted by the foreign research and technical programs division of the Department's Agricultural Research Service, is paid for with foreign currencies accruing to the account of the U.S. from the sale of surplus agricultural commodities under Public Law 480 (the Agricultural Trade Development and Assistance Act of 1954).

Both the Indian and Pakistani grants will be used to finance surveys for natural predators of the balsam woolly aphid, an economic forest pest, as well as for studies of the possible use of predators for biological control of this pest in the U.S. The Indian grant is for five years and totals 383,750 Indian rupees ($81,173).

The Pakistan grant, also for five years, totals 238,800 Pakistan rupees ($50,460).

One Spanish grant of 2,456,000 pesetas ($40,933) will be used for a four-year study of the diseases of native forest trees to determine whether these diseases constitute a possible threat to the U.S. forest economy should they be introduced here.

The other, valued at 3,544,000 pesetas ($59,067), will finance a five-year study of parasites, predators, and diseases of the gypsy moth in the forests of Spain and their possible use in the U.S. for biological control of the moth.

OPENS BRANCH

KING CITY, CAL. — The Triangle Co., fertilizer firm, has recently opened a branch here.

PERSONNEL

(Continued from page 6)

City, manufacturer of agricultural chemicals.

Mr. Carnes will make his headquarters at the company's regional office in Richmond, Virginia.

As a technical field representative, Mr. Carnes will work closely with agricultural extension specialists, county agents and farm advisers in the introduction and use of Chemagro products. Prior to joining Chemagro, he was engaged for the past three years in research and development of agricultural chemicals and has co-authored several technical papers on allied subjects.

●

Assumes Two Posts

MIDLAND, MICH. — David C. Baird has been appointed to positions as assistant secretary and assistant treasurer by the board of directors of the Dow Chemical Co.

In his new post as assistant secretary Mr. Baird succeeds Robert B. Bennett, Dow treasurer, who had held the office for a number of years

Mr. Baird has been manager of the pricing department for the past 10 years and will continue in that capacity.

●

Promoted to Manager

SALT LAKE CITY, UTAH—Gordon R. Kastler has been promoted from assistant manager to manager of the Salt Lake branch of the L. H. Butcher Co., a subsidiary of the Udylite Corp. L. H. Butcher is one of the distributors of industrial and agricultural chemicals in the western states.

●

Officers Elected

MIDLAND, MICH.—J. William Everson, assistant manager of market research for the Dow Chemical Co., has been elected president of the Chemical Market Research Assn. for the ensuing year.

Other officers elected are F. Scott Godron, of Victor Chemical Works, division of Stauffer Chemical Co., president-elect; Ray Harrison, Jr., of Tidewater Oil Co., treasurer, and Kevin Bradley, of White, Weld Co., secretary.

James E. Sayre, of Allied Chemical Corp.; Foster C. Garrison, of Columbia-Southern Chemical Corp., division of Pittsburgh Plate Glass Co., and Alvan H. Tenney, of Union Carbide Corp., were named to the board of directors. All will take office July 1.

●

Personnel Manager

ATLANTA, GA.—James K. Sims, Sr., has been appointed personnel manager of the Armour Agricultural Chemical Co., announced W. E. Shelburne, president of the fertilizer-manufacturing firm.

James K. Sims, Sr.

Mr. Sims was engineering personnel manager for Lockheed Aircraft Corp., Marietta, Ga., from 1951 until his present appointment. Prior to 1951 he was affiliated with the Veterans' Administration for five years.

The newly-appointed personnel manager holds a bachelor of science degree from Missouri State College, Cape Girardeau, Mo. He spent two years in the U.S. Navy as an electronic specialist and has served with the American Red Cross in Wichita, Kansas.

●

New IMC Supervisor

SKOKIE, ILL.—Herbert S. Swan, Jr., has joined International Minerals & Chemical Corp., Skokie, as supervisor, chemical and industrial advertising and sales promotion.

He was creative director for J. W. Spellman, Inc., Boston advertising agency, before joining IMC, and prior to that had held advertising positions with General Electric Co. and Procter & Gamble. Mr. Swan is a graduate of Lafayette College, Easton, Pa.

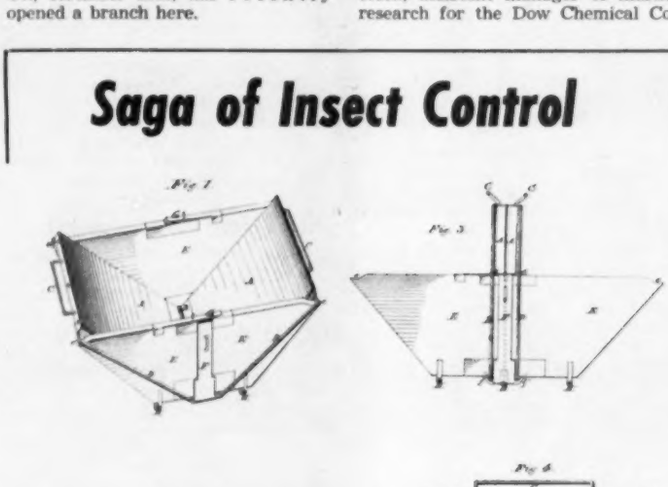
●

Named Research Scientist

LOS ANGELES — Appointment of Dr. Robert F. Crawford as agricultural research scientist for U.S. Borax Research Corp., Anaheim, Cal., is announced by Dr. C. L. Randolph, vice president of the U.S. Borax & Chemical Corp. subsidiary.

Dr. Crawford attended California State Polytechnic College, and received master's and doctorate degrees from Cornell University, concentrating his study on soil fertility and crop production.

Saga of Insect Control



IDEAS ON METHODS for killing insects seem never to end. The problem occupied thought in ancient times, and all through recent years the U.S. Patent Office has issued grants to inventors with new and novel methods of ensnaring insect pests. Here is a patented "insect destroyer" invented by James Orin of Dayton, Ohio, in 1872. Objective of the device was to "provide a simple, effective, and cheap means whereby insects, especially those which infest potato vines, may be destroyed."

According to information contained in the patent, the device would be placed under the vine, with the instrument's "wings" opened outwardly. The vine would then be shaken vigorously so the insects would fall into the trap from which they could not escape. The wings of the box would then be closed tightly, crushing the bugs.

NPFI Panel Reports on Chemical Control in Fertilizer Plants

WHITE SULPHUR SPRINGS, W. VA.—A seven-man panel of experts led by Dr. Vincent Sauchelli, chemical technologist of the National Plant Food Institute, presented a report on chemical control in fertilizer plants at the NPFI meeting here June 13.

Participating on the panel, in addition to the moderator, were Edwin M. Glocker, W. R. Grace & Co., Baltimore; Stacy B. Randle, New Jersey State Chemist and president of the Association of American Fertilizer Control Officials, New Brunswick, N.J.; Dale C. Kieffer, Smith-Douglass Co., Inc., Norfolk, Va.; Albert Spillman, Fertilizer Manufacturing Cooperative, Inc., Baltimore; J. R. Archer, International Minerals & Chemical Corp., East Point, Ga., and C. H. Russell, Monsanto Chemical Co., St. Louis, Mo.

Mr. Glocker and Mr. Randle discussed the Magruder check fertilizer sample system from the standpoints of the producer and state control officials, pointing out the necessity of attaining greater uniformity in product to avoid excessive overages or costly and embarrassing under-analyses. Both emphasized the need for more accurate equipment in the plant to make this ideal possible.

Mr. Archer and Mr. Russell described analytical methods of testing samples as set forth in the NPFI manual on standardized methods of such testing. Uniformity in methods was pointed out as being nearly as necessary as uniformity of product.

A study of in-plant shrinkage was reported by Mr. Kieffer and Mr. Spillman. The former discussed an analysis of causes of shrinkage and Mr. Spillman talked about what to do about it.

Mr. Kieffer pointed out that the manufacture of high-analysis goods makes it imperative to stop losses at every possible point, since even small amounts wasted are costly. Losses, he said, are incurred through steam and gases, as well as through overheating and via dust. Handling losses, shrinkage of liquids and of ammonia and spillage of dry materials are all factors.

Mr. Spillman emphasized the need for more uniformity and better physical condition of materials. He reported significant variations in analyses of materials from industry suppliers at times, and said that this condition, when it occurs, complicates the already difficult job of maintaining close control on grade.

As a remedy, he recommended a step-by-step control of every phase of manufacturing, making sure that all weighing devices are kept accurate, spillage and waste at a minimum, and all equipment maintained clean and functional.

In introducing the panel, Dr. Sauchelli remarked that losses in the fertilizer industry are probably much higher than most people realize, amounting to over $10,000 a year in some firms. This puts a heavy burden on management, since such losses are hardly compatible in an industry operating on a small margin of profit.

PROBLEMS

(Continued from page 1)

the number of people who remain on the farm."

Better measures, Dr. Hardin said, would be the total size of the agricultural enterprise, the big job it is doing in providing food and fiber, the many and varied industries which serve agriculture and the human and moral resources of agriculture.

The fact that young farmers—at least those in the Future Farmers of America—are anything but pessimistic today about the future of agriculture, was stated by Jim Thomas, national president of FFA. He told the convention that in the future he believed there would be a good, solid demand for farm products and that they would move through the marketplace at a good price.

"We believe we are on the threshold of a bold, new age, and those of us who are going to be in agriculture will have to have the mental competence to use the new technological discoveries," he said. "In the process we will have to be better businessmen and will need more and more know-how about the economics of agriculture."

"We boys of the FFA have long realized the importance of plant food in American agriculture," he said. "The revolution in farm fertilizer development and the use of fertilizers has been accompanied by a revolution in farm practices and production. This latter revolution has produced a richer and better farm picture in every sense, and we know that you men and the organization you represent have played a vital role in this task.

"We boys also believe that we are standing on the threshold of a fantastic age in farming. New breeds of livestock furnishing faster growth, more meat and milk on less feed promise great strides in the animal industry. The scientific progress in farm fertilizers and growthy, heavy-producing, disease resistant crop varieties will bring the crop and grain farmer new joys. On the good will tour (of businesses and industry) this year the national FFA officers were told that the new farm chemicals are to be the wonder drugs of American agriculture. Weed killers, growth stimulators and inhibitors and chemical fertilizers are just a few of the vast army."

In a stimulating and challenging address under the title of "The Political Responsibility of the Business Community," Mr. Motley said that the need was urgent for all citizens to "serve the public business with their own persons."

What the Russians are doing currently is not as important as what we are doing, and the U.S. cannot meet the Russian challenge with "checkbook citizens," he said.

Mr. Motley, who drew a standing ovation when he finished his talk, said that the essence of successful democracy is the participation by its citizens. We have big government, which is going to get bigger, he said. However, he said that this does not frighten him because our economy is growing and bigger government would be a natural development.

What is more important, Mr. Motley declared, is how good that government is. If it will work at all, everyone must share in the responsibility of getting good men into public office.

Mr. Motley described a program of the U.S. Chamber of Commerce designed to teach citizens how to participate in the processes of elective government and how to become effective in this area in their own communities. He said that no one could be a good citizen without participating in the processes by which people are selected to run for office, nominated and elected.

He left no doubt about what he meant: a personal service and interest and not, alone, financial support. Without such personal support, he said, money won't buy such things as better education or won't result in better elective officials.

MORE KHAPRA BEETLES

EL PASO, TEXAS—About a half dozen new infestations of Khapra beetle have been found in the El Paso and Ysleta area by state and federal inspectors.

Inspected premises are being enclosed in plastic and then fumigated.

The Khapra was first found in this area a year or so ago, and many people believed the insects had been completely wiped out.

Monsanto Begins Plant Expansion

ANNISTON, ALA.—Monsanto Chemical Co. has begun construction here on a 50% expansion of its manufacturing plant for parathion and methyl parathion.

The expansion, scheduled to be complete in November of this year, will give the plant an annual capacity of 18 million pounds of these products.

J. Paul Ekberg of St. Louis, director of agricultural chemicals for Monsanto's organic chemicals division, said that the increased capacity is needed to accommodate the rapidly expanding use of these compounds, up more than 50% in the past two years.

Maximum safety precautions for operating personnel, designed into the construction of the Monsanto plant here in 1957, also are being incorporated into the addition under construction, Mr. Ekberg said. These include multiple instrumentation controls on each process step, the isolation of reactor vessels behind steel-reinforced concrete block walls, provisions for automatic kettle dumping and a deluge system which is triggered by any excessive temperature rise.

As part of the expansion project here, Monsanto also is installing a preliminary activated sludge waste treatment plant adjoining the parathion-methyl parathion production unit. Bacterial decomposition will be used to consume approximately 90% of the organic content in effluent from the entire manufacturing unit. This will eliminate most of the disposal load from the unit on Anniston's municipal waste-treating plant, according to Monsanto.

Kraft Bag Appointments

NEW YORK—Following the announcement of the completion and full operation of a new 300,000 sq. ft. multiwall bag manufacturing plant, at St. Marys, Ga., Edward Burgers, Jr., sales manager for the Kraft Bag Corp. (Gilman Paper Co. subsidiary), with offices in New York and Chicago, announces the following sales staff appointments and changes:

P. F. Finley, formerly assistant sales manager, has been promoted to Southeastern sales manager, with headquarters in Raleigh, N.C. He will be responsible for all sales in Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama and Eastern Tennessee.

F. C. Joos, Jr., who has been covering Southern Illinois, Missouri, Arkansas and Eastern Oklahoma, working out of St. Louis, has been assigned the additional territory of Western Kentucky and Tennessee.

P. E. Bray, who previously covered the entire state of Georgia, will now cover Southern Georgia and Florida, and will work out of Jacksonville.

A. E. Rood, Jr., has been appointed to cover Northern Georgia, Alabama and Eastern Tennessee. He will make his headquarters in Atlanta.

R. A. Port has been appointed to cover Mississippi, Louisiana and Texas, working out of New Orleans.

R. E. Burke has been appointed to cover the states of Virginia, Maryland and Delaware. His headquarters will be in Baltimore.

Low Prices, Slim Yields Shouldn't Alter Fertilization Plans

Below-normal crop yields last year and low corn prices now are no reason for using less fertilizer this summer, according to Lowell Hanson and Curtis Overdahl, extension soils specialists at the University of Minnesota.

Crop prospects for 1960 are good, and it takes plenty of fertilizer used wisely to make the most profit, they say.

Some farmers may be considering using less fertilizer this year. There are several reasons. Many had poorer results from fertilizer last year than usual. Some have less operating capital now, because of problems in marketing high-moisture corn from 1959.

Other farmers are rather discouraged by lower corn prices and the uncertainty of corn prices in 1960.

Yet, farm management studies show that fertilizer correctly used is always a good investment, the specialists say. The 1959 drouth won't necessarily be repeated; soil moisture is already in better shape than 12 months ago.

True, some farmers and researchers last year reported lower-than-expected yield increases from fertilizing. In a few cases, yield was even somewhat lower in fertilized corn.

Main reason for the cases of poor fertilizer response was low spring subsoil moisture, combined with dry weather in July. Also, fertilizer in some localities speeded up silking and tasseling, so that both occurred in hot, dry weather.

However, 1959 was far from average. On 10 southwestern corn fields, records showed July rainfall less than a third of normal. It ranged from 0 to 2.5 in. and averaged 1.1 in. during July. Normal rainfall for that month on the same fields is 3.5 in.

The tight money situation does make it important to use the right fertilizer application, Mr. Hanson and Mr. Overdahl add. This means it pays more than ever to have soil tested, and apply fertilizer according to test recommendations.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Acti-Dione, in capitals and lower case letters, for fungicide for use in preparing a spray for the control of powdery mildew fungicide of roses. Filed March 10, 1958, by The Upjohn Co., Kalamazoo, Mich. First use March 26, 1957.

Multi-Film, in capital letters, for spreader, activator, and deposit builder for agricultural sprays. Filed June 25, 1959, by Hercules Glue Co., Ltd., Sausalito, California. First use April 15, 1937.

E-2, within sunburst design, for ammonium nitrate. Filed Feb. 2, 1959, by Monsanto Chemical Co., St. Louis, Mo. First use Nov. 24, 1958.

Brozone, in capital letters, for soil fumigant. Filed May 4, 1959, by The Dow Chemical Co., Midland, Mich. First use Feb. 25, 1959.

Chlorofume, in capital letters, for liquid mixture of chloroform, carbon bisulfide and ethylene dibromide used as a grain fumigant. Filed May 11, 1959, by Vulcan Materials Co., doing business as Frontier Chemical Co., Wichita, Kan. First use April 14, 1959.

Mr. Fish, in capital letters, for fertilizer. Filed Oct. 15, 1959, by WEC, Inc., Seattle, Wash. First use Sept. 29, 1959.

Police court judge: "Young man, your face looks very familiar. Have you ever been convicted by this court?"

Witness: "No, your Honor!"

Judge: "Remember, you're under oath. Where have I seen you before?"

Witness: "I'm the bartender in the saloon across the street."

●

The popularity of the automatic dishwasher is due to the fact most husbands would rather buy one than be one.

●

After what seemed like hours a white-robed doctor emerged from the examination room and addressed himself to Mr. Smith.

"Mr. Smith, your wife has quinsy."

"My gosh," said Smith, before he fainted, "that makes 15."

●

A famous matador was fighting in a Mexican border town. Among the spectators was an old cowhand who was seeing his first bull fight.

The fight had reached the stage where the matador, armed with only a cape, was taunting the bull, avoiding the animal's horns by fractions of an inch and flipping the cape aside as the bull charged past.

At last the old cowhand could stand it no longer. He arose and shouted: "Buddy, he ain't never gonna run into that sack unless you hold it still!"

●

Boss: "Jones, did you push a wheelbarrow down the street last night after the party?"

Jones: "Yes sir, I was pretty well spifficated."

Boss: "Well, how do you think I feel over the possible loss of prestige that your actions may have brought upon our business?"

Jones: "Gee, Boss, I never thought to ask you. You rode in the wheelbarrow."

●

A man telephoned the police to report that thieves had been at work on his car.

"They've stolen the steering wheel, the brake pedal, the accelerator, the clutch pedal and the dashboard," he complained.

A police sergeant said he would investigate. Then the phone rang again.

"Don't bother," said the voice—this time with a hiccup. "I got into the back seat by mistake."

●

An office boy noticed two women with the boss and asked, "Who were those two girls?"

Boss: "Well, one was my wife and the other was Marilyn Monroe."

Office boy: "Which one was Marilyn Monroe?"

The boss took a dollar out of his pocket and gave it to the boy.

Office boy: "What's this for?"

Boss: "Nothing. I just wanted you to remember, when you get to be president, that I once loaned you money."

●

The sins I see in other folk
Are the only ones I mention—
Any mistake that I might make
Is justified by a good intention!

Ammonia Plant Up for Sale

HOUSTON, TEXAS — General Services Administration announces that bids will be accepted for a large ammonia plant, called the "San Jacinto Plant," which was built during WW II for about $20 million. A public sale will begin on Aug. 1, GSA said.

GSA is presently accepting sealed bids on the plant which is on the deep water Houston ship channel. In addition to an operating plant and supporting facilities, the unit includes more than 4,000 acres of land.

The plant is one of the few remaining from those built for the government's emergency fertilizer program for overseas distribution soon after the war, GSA says.

To facilitate sale procedures, the acreage has been subdivided into 41 tracts, varying in size from 36 to 289 acres. Seven of the larger tracts have channel frontage and others will have when the proposed widening and realignment of the channel are completed. One tract has its own ship basin and a ship dock. It has 266 acres.

COLORADO INSECTS INCREASE

FORT COLLINS, COLO.—Alfalfa weevil population in eastern Colorado is more severe than it has been in the last five years, Gordon Mickle, extension entomologist at Colorado State University, has reported. The insects are on the increase in the Arkansas Valley and heavy infestations have been found in Pueblo and Otero counties. They are on the increase in Crowley, Bent and Prowers counties. Tent caterpillars also are increasing, Mr. Mickle said. They are four times as numerous as in 1959, according to a count taken here.

Ashcraft-Wilkinson Named Sales Agent

ATLANTA, GA.—Ashcraft-Wilkinson Co., Atlanta, has been named as exclusive sales agent for Hou-Actinite (Houston sludge) it was announced by Robert E. Ashcraft, president of the firm. A five year contract was awarded to Ashcraft-Wilkinson by the City of Houston, Department of Public Works.

Sales will be concentrated in Texas and surrounding states, Mr. Ashcraft said, with a majority of the product going to fertilizer mixers and manufacturers.

NEW FIRM STARTED

FORT DODGE, IOWA—Ed Garst has announced the organization of a new firm here to be known as the Scientific Spraying Co., with office at 1318 Dodge Circle. He will handle all types of spraying and insect control.

Croplife®
A BUSINESS PAPER FOR THE FARM CHEMICAL INDUSTRY

Fertilizer Optimism Still Seen Despite 1960 Season

CONVERSATIONS among fertilizer industry leaders at the recent Greenbrier meeting of the National Plant Food Institute reflected the current thinking of the trade as being optimistic on the whole. This is good. It might also appear surprising to anyone outside the trade who happened to get in on such talk, since everyone knows the situation throughout practically all of the 1960 season was anything but favorable.

The cold, wet spring not only hampered physical operations which normally include both fertilizer sales and application, but the excessive rains and flooded fields in many portions of the country, plus chilly temperatures, helped to develop in the minds of farmers a "What's the use?" attitude which is a difficult barrier to hurdle in making sales.

Tonnage in 1960 is expected to fall below the more than 25 million tons produced and sold last year. This is a foregone conclusion. Next year, though, will be better, it is predicted. That's where most of the optimistic talk is heard.

The 1960 season was not one of the better ones, it is true. But as one conventioneer was heard to say, "Agriculture is here to stay and the fertilizer industry is one of its most important suppliers . . . next year will be better."

We trust that our optimistic friend's outlook will prove true. One thing that will help it come about is an even more aggressive sales program in 1961. Farmers tend strongly to wait and wait until the last possible minute to get their plant food deliveries, creating a difficult situation for not only the industry, but for themselves as well. Maybe this should be one of the target areas for next season's sales efforts.

Pesticide Booklet Tells Public What's What

A BOOKLET, "Pesticides and Public Policy," published recently by the National Agricultural Chemicals Assn. contains information which we wish could be presented to every community in the country. An unemotional discourse on the whole matter of pesticides and other chemical products used in agriculture is a thing long needed to give the public the other side of the story.

Bristling with facts and quotations from the U.S. Public Health Service, U.S. Department of Agriculture, the American Medical Assn. and eminent toxicologists, the volume should answer questions and allay fears thrust on people by numerous scare stories and unfounded accusations against pesticides. The booklet points out that the fast pace of scientific changes makes adjustment difficult for many and new developments bring unreasoned fear and panic. The more fearful people are, the more hazards they will see in everything.

The pesticide industry, the booklet says, has a big responsibility in helping to provide food for the present and for the future. Raising enough food for an expected world population of 6 billion in the year 2,000 can be done only through continued research and development. We can feed our population only if scientific research can be continued and if the results of research are used to the maximum in food production, it is pointed out.

The processes of registering a new pesticide, old stuff to the trade but apparently not well known to the public, is outlined in the NAC book, and emphasis is placed on provisions made for a wide margin of safety in the use of pesticides.

Finally, the book states that the objective of the pesticide manufacturers, food producers, and processors, the U.S. Department of Agriculture, the Federal Food and Drug Administration, and the U.S. Public Health Service has every reason to be identical . . . the production of an adequate supply of wholesome food. "Common sense is the major ingredient needed by all groups in working to achieve these goals in the balanced best interests of all," the text ends.

Facts made available in the booklet should be widely distributed and used by the pesticide industry people on local levels where it will do the most good. It is the best counteractant we have seen to the wild tales of pesticide opponents.

Record Forest Plantings Create Market Potentials

ONE OF THE more promising markets for extra tonnages of fertilizers lies in the application of plant food to forest areas of the country. Trees are an important crop, although many people in the past have failed to regard them as such.

The past year saw an unusual number of tree plantings . . . actually over two billion, according to Ezra Taft Benson, Secretary of Agriculture. Much of this all-time record was due to a great increase of planting on private lands, he said. Two billion trees is an amount difficult for any individual to imagine.

Likewise hard to grasp is the significance of the 2,118,471 acres planted to trees. A fertility program that would call for even a few pounds of plant food to the acre would be a tonnage sufficient to warm the heart of even the most pessimistic fertilizer merchant.

The U.S. Department of Agriculture says that one-third of the land planted, or about 700,000 acres, was cropland placed in the conservation reserve program under 10-year contracts. Under the conservation reserve, farmers receive cost-sharing help to place in conservation uses land voluntarily retired from crop production.

During the past two years forest and wind barrier tree planting has leaped from 1 million acres in 1957 to 1½ million in 1958, and 2.1 million in 1959. This compares to 497,507 acres planted in 1950 and 812,588 acres in 1955.

Tree planting on privately owned land jumped from 1,326,370 acres in 1958 to 1,884,071 in 1959. Planting on federal land rose from 133,509 acres to 167,610, while planting on other public lands decreased slightly.

"We're delighted to see an increased interest in tree planting, particularly by private landowners," Secretary Benson said, "because we have a lot of idle forest lands to get into full production if we are to have the forest products needed in the future. We can't be complacent, however, about the 1959 record. Not all the newly planted acres will develop into productive forests. Some will be lost prematurely through changing land uses.

"Each year additional areas will need planting to replace trees lost by cutting, forest fires, insects, and diseases. To catch up with the areas deforested in the past and keep caught up, we will have to increase the rate of planting even more."

Aside from the potential fertilizer sales involved in such statistics, the pesticide industry has a stake in the matter, too. The worst enemy of forests is the insect. Even worse than fire. With

(Turn to EDITORIAL, page 27)

Croplife's Home Office

Croplife®
MARKETING EDITION

BPA — Member of Business Publications Audit
NBP — Member of National Business Publications

Lawrence A. Long, Editor
Donald Neth, Managing Editor

EDITORIAL STAFF — John Cipperly, Washington Correspondent; James L. Engfer, Editorial Assistant.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Jerome C. Whiting, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager; James S. Barden, Marketing and Research Director.

BUSINESS STAFF—Milton B. Kihlstrum, President and Treasurer; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald Neth, Secretary; Harry M. Dunn, Jr., Circulation Fulfillment Manager; James G. Pattridge, Assistant Treasurer; Richard Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

ADVERTISING REPRESENTATIVES

EASTERN STATES—Paul L. Dittemore, Manager; Archy S. Booker, Jr., and James W. Miller, Advertising Sales Representatives; Room 1101, 52 Vanderbilt Ave., New York 17, N.Y. (Tel Oregon 9-2490).

CENTRAL STATES—Don E. Rogers, Manager; Amos W. Standish and Robert M. Harrison, Advertising Sales Representatives; 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-0515).

SOUTHWEST—Martin E. Newell, Manager; Thomas E. Letch, Assistant Manager; 612 Board of Trade Bldg., Kansas City 5, Mo. (Tel. Victor 2-1350).

NORTHWEST — Paul A. Anderson and Wayne H. Soule, Advertising Sales Representatives, P.O. Box 67, Minneapolis 40, Minn. (Tel. Franklin 4-5200).

WASHINGTON CORRESPONDENT — John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

WESTERN STATES — The Maurice A. Kimball Co., Inc., 2550 Beverly Blvd., Los Angeles 57, Cal. (Tel. Dunkirk 8-6178); The Maurice A. Kimball Co., Inc., 681 Market St., San Francisco 5, Cal. (Tel. Exbrook 2-3365).

EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn. Tel. Franklin 4-5200. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 40, Minn.)

Associated Publications—The Northwestern Miller, Farm Store Merchandising, Feedstuffs, Feedlot, Professional Nursing Home

Oct. 10-11—2nd annual Four State Aerial Applicators Conference, Yakima, Wash., Norkem Corp. sponsoring.

July 12-14—Northeast Branch, American Society of Agronomy, University of New Hampshire, Durham, N.H.

July 20-21—Summer Lime and Fertilizer Conference, headquarters Otesaga Hotel, Cooperstown, N.Y.

1961

Feb. 1-2—Soil Science Society of North Carolina Annual Meeting, Williams Hall, North Carolina State College, Raleigh, N.C.

Meeting Memos listed above are being listed in this department this week for the first time.

June 21-22—Eighteenth Annual Convention, Association of Southern Feed & Fertilizer Control Officials, Riverside Hotel, Gatlinburg, Tenn. For further information, write Maurice B. Rowe, secretary-treasurer, Department of Agriculture, 1119 State Office Building, Richmond 19, Va.

June 25—Del-Mar-Va Peninsula Fertilizer Assn., Annual Convention, George Washington Hotel, Ocean City, Md.

June 27-29 — Northwest Section, American Society of Range Management summer meeting, John Day, Oregon.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 11-13—Annual meeting, Western Society of Crop Scientists, University of Nevada, Reno, Nev.

July 11-13—North Central Agronomy Society, Summer meeting, University of Minnesota Farm Campus, St. Paul, Minn.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; E. R. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.

Aug. 2-3—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 10—Field Day, Lockwood Farm of the Connecticut Agricultural Experiment Station, New Haven, Conn.

Aug. 10-11—Northeast Regional Fertilizer Safety School, Park Sheraton Hotel, New York City.

Aug. 15-23 — Seventh International Soil Science Congress, University of Wisconsin, Madison, Wis., Prof. Emil Truog, Congress Manager, Soils Building, College of Agriculture, Madison 6, Wis.

Aug. 16-17—Midwest Regional Fertilizer Safety School, National Safety Council Headquarters, Chicago.

Aug. 21-25 — Canadian Fertilizers Assn., annual convention, Manoir Richelieu Hotel, Murray Bay, Quebec, Canada. H. H. Skelton, P.O. Box 147, Hochelaga Station, Montreal, Que., Canada, general chairman.

Aug. 25-27—Southeast Regional Fertilizer Safety School, Wilmington, N.C.

Aug. 25-27—Mississippi Soil Fertility and Plant Food Council, 1960 meeting, Buena Vista Hotel, Biloxi, Miss.

Sept. 24-26—Western Agricultural Chemicals Assn., 31st annual meeting, Palm Springs Riviera Hotel, Palm Springs, Cal.

Sept. 27-29—Annual meeting of National Agricultural Chemicals Assn. for 1960, Hotel del Coronado, Coronado, Cal.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 10-11 — Second Annual 4-State Aerial Applicators Conference, Hotel Chinook, Yakima, Wash., Norkem Corp. is sponsor.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Oct. 31-Nov. 3—International Crop Improvement Assn. meeting, Denver, Colo.

Nov. 2-4—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C.

Nov. 3-4—Annual fall convention, Pacific Northwest Plant Food Assn., Boise, Idaho.

Nov. 9-11—National Fertilizer Solutions Assn., 1960 Convention, Memphis, Tenn.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

Nov. 29—Oklahoma Fertilizer Dealers Conference, Oklahoma Plant Food Educational Society and Oklahoma State University cooperators, Huckins Hotel, Oklahoma City, Okla.

Dec. 14—Louisiana Fertilizer Conference, Louisiana Plant Food Educational Society and Louisiana State University cooperators, Baton Rouge, La.

Jan. 11-13 — Agricultural Ammonia Institute, 10th annual convention, Memphis, Tenn.

1961

Jan. 9-10—Texas Plant Food Conference, Texas Plant Food Educational Society and Texas A&M cooperators, College Station, Texas.

Jan. 17-18—Arkansas Plant Food Conference, Arkansas Plant Food Educational Society and University of Arkansas cooperators, Little Rock, Ark.

Fire Destroys Firm

BUNKIE, LA. — The Guarantee Fertilizer Co. here was completely destroyed by fire recently.

Roy Fontane, owner of the two-story building, estimated loss at $4 million and said the plant housed heavy machinery, trucks and other equipment.

Little Hopper Threat Seen in Minnesota

ST. PAUL, MINN.—Grasshoppers and corn borers should not be major problems in Minnesota this year, except in a few local areas, said J. R. Sandve and R. G. Flaskerd, entomologists for the Minnesota Department of Agriculture.

Based on 1959 adult and egg surveys, Mr. Sandve and Mr. Flaskerd expect "threatening" hopper infestations in only two small areas. One spot includes northern Rock County, most of Pipestone and parts of Lincoln, Lyon, Murray and Nobles Counties. The other covers part of Chippewa and Swift Counties.

The entomologists predict "light" hopper attacks in part or all of these counties: Waseca, Blue Earth, Le Sueur, Washington, Chisago, Pine, Kanabec, Benton, Sherburne, Stearns, Pope, Todd, Stevens, Grant, Traverse, Big Stone, Wadena, Hubbard, Clay, Norman, Polk, Red Lake, Marshall, Kittson and Roseau.

In other areas of the state, grasshopper infestations aren't expected to be severe enough to cause serious damage to crops. However, the entomologists add that local concentrations of hoppers are always possible, particularly when weather favors their growth.

Du Pont Wins Damage Suit on Weed Killer

TUCSON, ARIZ. — A $188,011.02 damage suit against the E. I. du Pont de Nemours & Co., alleging weed killer injury to cotton crops in 1957 and 1958, resulted in a jury verdict for Du Pont in the Arizona Superior Court here May 26.

The plaintiff, A. S. & R. Farms, Inc., had filed suit May 22, 1959, alleging that Du Pont's monuron weed killer, applied to 716 acres at lay-by time in 1957, injured cotton crops both that year and the year following.

Technical evidence was presented by witnesses during the trial to show that the use of the weed killer was a sound practice and based on extensive trials in many areas.

PARTNERSHIP DISSOLVED

REDWOOD CITY, CAL. — The Redwood Supply & Fertilizer Co. here recently announced dissolution of partnership, as partner Paul Ray moved with his family to Santa Barbara. The 10 year old firm will continue in business, operated by the two remaining partners, Frank Silvani and Robert Maltoni.

EDITORIAL

(Continued from page 26)

modern means of air application of insecticides over vast areas, it is entirely feasible to consider the new plantings as being potential markets in a relatively short time. This, too, is an area where residues are an insignificant problem, which makes the idea even more attractive.

From a practical standpoint, however, it is premature to begin immediately counting profits from such projects. Much is yet to be learned about the economics of forest fertilization, although numerous tests made by private firms and by state agricultural experiment stations have indicated the feasibility of such a practice.

Both the fertilizer and the pesticide industries will be smart to keep a figurative ear to the ground to determine progress in forest fertilization. The potential offers a clear challenge to the men who can come up with needed answers, and to the sales organizations who bear much of the responsibility for putting the idea across.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Ashcraft-Wilkinson Co.	5, 23
Badger Meter Mfg. Co.	3
Baughman Mfg. Co.	6
Blue, John, Co.	10
Chase Bag Co.	23
Colloidal Products Corp.	13-16
Diamond Alkali Co.	19
Duval Sulphur & Potash Co.	5
Grace Chemical Co.	25
Hercules Powder Co.	28
Highway Equipment Co.	12
Hub States Chemical	23
Meredith Publishing Co.	11
Molded Fiberglass Body Co.	7
Reasor-Hill Corp.	27
Spraying Systems Co.	18
Successful Farming	11
Texas Gulf Sulphur Co.	20

(Discussing promising new insecticide compounds at Hercules' Agricultural Chemicals Laboratory are: George Buntin, discoverer of toxaphene; Dr. E. N. Woodbury, laboratory supervisor; Dr. Keith D. Ihde, research entomologist; Dr. Arthur D. Lohr, supervisor, Naval Stores research; and Dr. William R. Diveley, a discoverer of Delnav.)

Hercules Research:

KEY TO TOXAPHENE'S OUTSTANDING RECORD OF SERVICE

Toxaphene has had a remarkable history. In a fast-moving industry this versatile insecticide maintains its leadership after more than 12 years of service to agriculture. New uses are being found for toxaphene each year as it continues its dynamic growth.

Continuous research is carried on by Hercules Powder Company to find new chemicals for agriculture, and to find better ways to utilize the tools now available. Many of the people doing this work were engaged in the original development of toxaphene. Besides laboratory research, Hercules has placed great emphasis upon field testing and large-scale demonstrations. From such applied research in cotton insect control, for example, has come information to help farmers get better yields while lowering their production costs.

TOXAPHENE

Agricultural Chemicals Division, Naval Stores Department
HERCULES POWDER COMPANY
INCORPORATED
Wilmington, Delaware

NX60-1